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Jordan National Health Accounts

March 2000

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- > Improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and*
- > Enhanced organization and management of health care systems and institutions to support specific health sector reforms.*

PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.

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Abstract

National Health Accounts (NHA) is a basic tool of health sector management and policy development that describes how much a country spends on health, and maps out in detail the sources and uses of health care expenditures. This report presents the results of the first NHA for the Hashemite Kingdom of Jordan, which was completed through a collaborative effort of the Ministry of Health, Royal Medical Services, and Jordan University Hospital, with technical assistance from USAID's Partnerships for Health Reform Project.

In 1998, Jordan spent approximately JD 453.8 million (US\$ 647 million) on health, or JD 95 (US\$ 136) per capita. Total health expenditures represented 9.12 percent of GDP. The private sector is the largest source of health funding (47 percent) followed by the public sector (45 percent) and donors (8 percent). The main policy issues emerging from the NHA results are the high level of total health expenditures as a percentage of GDP and its implications for the ability to provide health care services at current level of quality and quantity; the high level of pharmaceutical expenditures (35 percent of total health expenditures); the indiscriminate capital investment in the private sector and little regulation that has resulted in a surge of private hospitals; and the high level of spending on curative care (58 percent) as compared to primary care (27 percent). The Jordan NHA team is working to institutionalize NHA at the national level.

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Acronyms

CIP	Civil Insurance Program
CIS	Civil Insurance System
GDP	Gross Domestic Product
GNP	Gross National Product
IMF	International Monetary Fund
JD	Jordanian Dinar
JHEUS	Jordan Household Expenditure and Utilization Survey
JLCS	Jordan Living Condition Survey
JNHA	Jordan National Health Accounts
JPFHS	Jordan Population and Family Health Survey
JUH	Jordanian University Hospital
MENA	Middle East and North African (countries)
MOF	Ministry of Finance
MOH	Ministry of Health
MOP	Ministry of Planning
NGO	Non-Governmental Organization
NHA	National Health Accounts
NHASC	National Health Accounts Steering Committee
OECD	Organization for Economic Cooperation and Development
PHR	Partnerships for Health Reform
RMS	Royal Medical Services
TFR	Total Fertility Rate
TPA	Third Party Administrator
UNICEF	United Nations International Children's Fund
UNRWA	United Nations Relief Works Agency
USAID	United States Agency for International Development
WHO/EMRO	World Health Organization/Eastern Mediterranean Regional Office

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Executive Summary

Socio-economic Background

Jordan is a low middle-income country, with a population of 4.75 million in 1998 (Hanssen-Bauer et al., 1998; henceforth referred to as the Jordanian Living Condition Survey (JLCS), 1998). In the same year, its gross domestic product (GDP) amounted to US\$ 7.01 billion¹ and per capita income was \$1,150 (World Bank, 1997). Jordan has a small economy with limited natural resources, arid land mostly unsuitable for agriculture, and chronic water shortages; it imports most of the energy it consumes. The worldwide recession of the early 1990s followed by the Gulf War severely affected Jordan's economy, causing it to decline considerably.

Based on the commonly used developmental indicators, Jordan fares better than most countries in the low middle-income category. The majority of the populace has access to basic infrastructure like safe water, sanitation, and electricity and lives in permanent dwelling structures (JLCS, 1998). Government commitments to improve the overall quality of life and the social standards of its people have borne impressive results. Primary and secondary education for girls and boys alike has been made a priority. The literacy rate is over 80 percent and Jordan has a well-developed human resource base.

As a result of declining mortality rate and high total fertility rate, the overall population growth rate has been 3.3 percent per year between 1992 and 1998 (Macro International, 1997). Rapid population growth implies an increase in demand for social programs, such as, education and health. A change in the population make-up further highlights the need for a health policy that will have to account for growing demand for health care for the elderly as well as maternal and child health care services.

Health Sector

Jordan's health system is a complex amalgam of several highly fragmented private and public programs. Two major public programs that finance as well as deliver care are the Ministry of Health (MOH) and Royal Medical Services (RMS). Other smaller public programs include several university-based programs, such as the Jordan University, and Jordan University of Science and Technology. In addition, several non-governmental organizations (NGOs) and donor owned and operated facilities exist, largest being United Nations Relief Works Agency (UNRWA) which provides care mostly to Palestinian refugees.

At present, a very limited amount of reliable data exists on utilization rates, insurance coverage, and expenditures on health care services. Health planners are unable to evaluate actual needs of the population, or to assess in any systematic way the performance of the health system. Pluralism of the health care system exacerbates the difficulty in data collection and assessment. Many individuals and their dependents are enrolled in more than one insurance program. As a result of multiple coverage, it

¹ There are different estimates of GDP and GDP per capita. Estimates for 1998 of GDP range from US\$ 7.01 - 7.39 billion, and of GDP per capita from US\$ 1,475–1,536.

is difficult to plan, monitor, and control expenditure, as well as ascertain the exact number of insured and uninsured. To overcome the paucity of essential planning data, the MOH, with United States Agency for International Development (USAID) support, launched an intensive program of research and data collection in 1997. The National Health Accounts (NHA) activity is a part of this effort.

NHA is designed to give a comprehensive description of resource flows in a health care system, showing where resources come from, and how they are used. Although previous health care expenditure studies have been carried out in Jordan, none has used the integrated framework of NHA to organize and compile data.

According to the first NHA estimate, in 1998 Jordan spent approximately JD 454 million (US\$ 647 million) on the health sector, which accounted for 9.12 percent of the GDP. Health expenditure per capita in 1998 was JD 95 (US\$ 136). NHA results highlight the fact that the proportion of GDP (9.12 percent) spent on health care is very high. This level of expenditure might be difficult to sustain given the high population and low economic growth rates.

The NHA results show that almost 47 percent of the total funds originates from private sources, where as 45 percent is apportioned public funds, and the remaining 8 percent is contributed by international donors or other sources. The private sources comprise premiums paid by people for private commercial insurance, expenditures incurred by self-insured companies that directly pay for health care services for their employees, and out-of-pocket expenditure for health care and for drugs at pharmacies. The public sources comprise mainly tax revenue allocations by Ministry of Finance (MOF) to the MOH, RMS, and Jordanian University Hospital (JUH).

A breakdown of public health expenditures by function indicates that almost 58 percent is spent on curative services, 27 percent on preventive measures, 5 percent on administrative activities, 3 percent on training, and 7 percent on miscellaneous activities. Even as the financing in the entire health sector is highly fragmented, within the public and private sector it is highly centralized and controlled leaving little room for flexibility and maneuverability at the facility level.

The expenditure on drugs at JD 159 million is higher than most countries in Jordan's income group. It accounted for approximately one-third of the total expenditure on health care services, and 3.2 percent of the GDP in 1998.

Profile of Health Sub-systems in Jordan

Table ES-1 is a brief overview of the Jordanian health sector in terms of health services coverage, sources of financing, prevailing provider-payer relationships, and the size of operation of each of the health care sub-systems.

Table ES-1: Profile of Health Sub-systems in Jordan

Benefits by Health Subsystems	Coverage/Special Categories	Principal Financing Sources	Provider – Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Describes types of services and benefits available.	Describes coverage and eligibility criteria, special programs for specific population groups.	Describes main sources of financing.	Describes relationship between financing and service delivery functions.	Number of people covered or eligible by health system nationwide.	As indicated by staff, beds, or number of facilities.
Government Services/MOH					
<p>a) Provides comprehensive public health services; primary, preventive, and curative care through its facilities.</p> <p>b) Performs the following financing functions:</p> <ul style="list-style-type: none"> > Administers Civil Insurance Program (CIP). > Insurer of last resort for the poor. 	<ul style="list-style-type: none"> > Civil servants and dependents; individuals certified as poor, disabled, and blood donors. > Highly subsidized primary and curative care for the entire population. 	<ul style="list-style-type: none"> > Ministry of Finance (general tax revenues) > Ministry of Social Affairs > Service fees collected at health facilities > Co-payments for services and pharmaceuticals > Payroll deductions > Donor assistance > World Bank loan 	Ministry of Health integrated delivery system – services provided by government facilities financed through budget and salaried civil service staff.	<p>23 percent (persons enrolled in CIP).</p> <p>Under public law, MOH is required to provide subsidized care to all Jordanian citizens.</p>	<p>Operates</p> <ul style="list-style-type: none"> > 42 comprehensive health centers > 327 primary health centers > Village health centers > 322 maternity and child health care centers > 212 dental clinics > 11 chest diseases centers > 22 hospitals > 3,192 hospital beds (37%)

Benefits by Health Subsystems	Coverage/Special Categories	Principal Financing Sources	Provider – Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Royal Medical Services					
Primary and curative care services.	<ul style="list-style-type: none"> > Military personnel and their dependents. > Other referrals from MOH and JUH, and contractual agreements with public firms. 	<ul style="list-style-type: none"> > Government budget > User fees > Co-payments (based on army rank and status) > Minor cost sharing for pharmaceuticals 	Integrated delivery system comprising RMS outpatient clinics and hospitals. Referrals to MOH facilities.	35 percent	Operates: <ul style="list-style-type: none"> > 81 ambulatory care centers > 5 clinics > 10 hospitals > 1,828 hospital beds (21%)
Jordan University Hospital					
a) Serves as a fee-for-service referral center for other public programs and private payers. b) Owns and operates outpatient clinics and inpatient facilities for primary and curative care.	Covers its employees and dependents.	<ul style="list-style-type: none"> > Ministry of Finance > Ministry of Health > User fees 	Serves as fee-for-service referral center for other public programs and private payers.	Less than one-half of one percent.	<ul style="list-style-type: none"> > 1 hospital > 494 hospital beds (6%)
United Nations Relief Works Agency					
a) Owns and runs primary health care centers. b) Refers hospital care to MOH or private facilities.	Provides care to 400,000 Palestinian refugees.	Financed through outside donor contributions.	Operates and owns primary health care clinics managed by its own staff.	400,000 Palestinian refugees	23 clinics

Benefits by Health Subsystems	Coverage/Special Categories	Principal Financing Sources	Provider – Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Private Health					
a) Owns and operates private clinics and hospitals for primary and curative care. b) Owns and operates pharmacies.	> Beneficiaries of any private health plan self-insured. > Company employees and their dependents. > All citizens with willingness to pay.	> Direct out-of-pocket payments. > Payments from insurance plans. > Payments from employees and employers.	Private hospitals and clinics, by contract. Fee-for-service, or through a third-party payer (insurance company or employer).	All citizens with a willingness to pay are eligible.	> 50 hospitals > 3051 hospital beds (36%) > 1,500 pharmacies > Number of clinics not available

National Health Accounts Activity

Jordan is one of eight countries² participating in the Regional National Health Account initiative, supported by USAID, World Bank, and World Health Organization (WHO/EMRO). The exercise of generating Jordan National Health Accounts is a collaborative effort among representatives of MOH, Royal Medical Services, Jordan University Hospital, and PHR. The effort commenced in 1997 and has continued since then.

The main findings inferred from the two NHA matrices, Table ES-2 and 3, are summarized below:

Summary Statistics (FY1998)

Total Population:	4,755,750
Total Health Expenditure:	JD 453,836,000 (US\$ 647,412,000)
Per Capita Expenditure:	JD 95 (US\$ 136)
Total GDP	JD 4,975,177,305 (US\$ 7,015,000,000)
Health Expenditure as Percent GDP:	9.12 %
Total Gross National Product (GNP) ³	JD 3,724,822,695 (US\$ 5,252,000,000)
Health Expenditure as Percent of GNP:	12.18 %
Percent Government of Jordan Budget Allocated to Health:	8.9 %
Distribution of Sources of Funds	
Public:	45 %
Private:	47 %
Donors:	8 %
Distribution of Health Care Expenditures	
Public Sector:	58 %
Private Sector:	38 %
NGOs:	3 %
UNRWA:	1 %
Total Expenditures on Pharmaceuticals:	JD 158,880,000
As a Percent of Total Health Expenditure:	35 %
Pharmaceutical Expenditure as Percent of GDP:	3.2 %
Distribution of Pharmaceutical Expenditures	
Public:	24 %
Private:	76 %

² Other countries are Djibouti, Egypt, Iran, Lebanon, Morocco, Tunisia, and Yemen

³ Like GDP, estimates of GNP also vary. Estimates of GNP for 1998 vary from US\$ 5.3 – 6.9 billion depending on the source.

Table ES-2: Sources of Funds, 000s JD, 1998

Financing Intermediaries	Primary Sources							
	MOF	Public Firms	Private Firms	Households	Donors	UNRWA	Other Govt. Entities	Total
MOH for JUH ¹	5,500							5,500
MOH	111,337			23,991	25,000			160,328
RMS	49,000			8,000	1,000		9,987	67,987
JUH	3,953	3,284		2,164	1,016		2,091	12,508
Public Firms		13,415						13,415
Private Insurance			11,500					11,500
Private Firms			5,500					5,500
Households				152,249				152,249
UNRWA						7,454		7,454
Other Univs.				4,497				4,497
NGOs	6,449			6,449				12,898
Total	176,239	16,699	17,000	197,350	27,016	7,454	12,078	453,836

Source: NHA Team

Notes: 1. Outside the annual MOH operating Budget

Amounts appearing with the same primary and intermediary sources (for example, JD 152,249 for households) imply that there was no intermediary and these funds were spent directly on health care services

Table ES-3: Financing Intermediaries to End Uses, 000 JD, 1998

End-Users	Financing Intermediaries										
	MOH	RMS	JUH	Other Univ.	Public Firms	Private Insurance	Private Firms	Households	UNRWA	NGOs	Total
MOH Hospitals	74,336	4,000									78,336
MOH Outpatient Clinics	50,331										50,331
MOH (Other) ¹	22,018										22,018
JUH (Outside Annual Budget) ²	5,500										5,500
JUH (Main Budget)	5,300		10,344				68				15,712
JUH (Other)			2,164								2,164
RMS Hospital	4,000	38,092					2,000				44,092
RMS Outpatient Clinics		14,797									14,797
RMS (Others)		11,098									11,098
Public Firm Facilities					13,415						13,415
UNRWA Clinics									7,454		7,454
NGO Clinics										12,898	12,898
Private Hospitals	2,881					3,450	1,716	23,710			31,757
Private Clinics						2,875	1,716	13,697			18,288
Pharmacists						5,175		114,842			120,017
Other Univ. Facilities				4,497							4,497
Treatment Abroad	1,462										1,462
Total	165,828	67,987	12,508	4,497	13,415	11,500	5,500	152,249	7,454	12,898	453,836

Source: NHA Team

Notes: 1. Outside the JUH annual operating budget

2. Other includes: Administrative expenses and training

Analysis of Sources and Uses of Funds

Expenditures

As indicated in Tables ES-1 and ES-2, the total expenditure on health care in Jordan amounts to JD 453.8 million (US\$ 647.4 million) and the per capita expenditures to JD 95 (US\$ 136). The total expenditure on health is 9.12 percent of the GDP and is considered very high for a low middle-income country. This level of expenditure is more in line with countries of the Organization for Economic Cooperation and Development (OECD). The proportion of government budget allocated to health sector is almost 9 percent. Public sources account for 45 percent and private sources for 47 percent of health care financing. International donors account for the remaining 8 percent. In terms of expenditures, the public sector accounts for 58 percent, private sector accounts for 38 percent, and NGO and UNRWA clinics for 4 percent.

As denoted in Table ES-4, expenditures on pharmaceuticals are very high. One-third of the health expenditure is on drugs and accounts for 3.2 percent of GDP. In Table ES-5 we observe that curative care accounts for 58 percent of public expenditures and primary care for only 27 percent. Nearly 65 percent of expenditures on primary health care goes to salaries. Resources available for other components of health care such as drugs and x-rays are curtailed if the majority of limited resources are expended only on salaries, therefore raising a possibility of affecting the quality of overall health care.

Table ES-4: Expenditures on Pharmaceuticals

Total Expenditure	158,880,000
Percent Total Health Expenditure	35%
Percent of GDP	3.2%
Distribution	
Public	24%
Private	76%

Source: MOH Annual Report, 1998

Table ES-5: Distribution of Public Expenditure by Functions (percent)

Function	MOH	RMS	JUH	Total
Curative	51%	63%	91%	58%
Primary	34%	21%	0%	27%
Administration	2%	11%	9%	5%
Training	2%	5%	0%	3%
Others	10%	0%	0%	7%

Source: NHA Team

Note: Numbers may not add up to 100% due to rounding

Hospital Sector

As noted in Table ES-6, the total number of beds in Jordan is 8,366 or 17.4 beds per 10,000 population. It is one of the highest ratios in the Middle East. The public sector has twice as many beds as the private sector. The occupancy rate varies from 45 percent to 70 percent across public and private sectors and across governorates. It is particularly low in the private sector. As shown in Table ES-6, the total number of admissions in 1998 amounted to 539,862. This means 11 percent of the population had one episode of inpatient admission per year. As shown in the Table ES-7, two-thirds of the admissions occur in the public sector and one-third in the private sector. The average cost per admission is JD 460 (Table ES-8). The cost per admission at JUH is the highest, probably due to the case mix and the fact that it is a teaching hospital.

Table ES-6: Analysis of Hospital Sector

Entity	No. of Beds	Occupancy Rate	Avg. Length of Stay	No. of Admissions
MOH	3,192	69.7	3.30	234,504
RMS	1,828	69.9	4.63	102,711
JUH	494	67.0	5.00	22,376
Private	2,852	45.0	2.60	180,271
Total	8,366	60.1	3.40	539,862

Source: MOH, 1998

Table ES-7: Percentage Distribution of Beds and Admissions

Entity	Percent of Beds	Percent of Admissions
MOH	38%	43%
RMS	22%	19%
JUH	6%	4%
Private	34%	34%
Total	100%	100%

Source: MOH, 1998

Table ES-8: Cost Per Admission in Public Hospitals

Entity	Public Cost per Admission, JD
MOH	373
RMS	510
JUH	1141
Total	460

Source: NHA Team

Households

Household expenditures are estimated based upon data from the Jordan Living Conditions Survey. This underestimates both utilization and expenditures for the following reasons.

- > JLCS uses only a two-week recall period and, therefore, most likely underestimates the total cost of illness. Also, in the case of visits associated with multiple illnesses, the survey includes only those associated with the most recent illness and ignores earlier visits.
- > Children under the age of five are not included in the survey even though they tend to have high utilization rates, particularly in their first year. Thus, by excluding children under five, the total cost is likely to be underestimated.
- > Routine (non-prescription) health expenditure is not captured in the JLCS.

Some of the utilization measures are summarized in Table ES-9. The annual per capita use is 2.41. Females use more health services per capita than males. It is also interesting to note that the uninsured and those in the lowest income quintile use more health care per capita than the insured. Residents in urban areas use more health care per capita than those in rural areas.

Table ES-9: Annual Per Capita Use Rate (Outpatient and Inpatient)

Category	Number
Total Sample	2.41
Gender	
Males	2.39
Females	2.63
Insurance Status	
Insured	2.40
Uninsured	2.54
Place of Residence	
Urban	2.63
Rural	1.93
Income Status	
Lowest Decile	3.22
Highest Decile	2.67

Source: JLCS, 1996

Table ES-10 includes an analysis of only outpatient visits, since JLCS data for inpatient visits is not reliable. Slightly over half of the population (53 percent) prefers private providers to public providers, given the perception of better quality of care associated with private centers. More than half of all visits for males and females occur in private facilities. Forty-seven percent of all outpatient visits occur in public facilities. The insured are far more likely to use public facilities (64 percent of all visits) than the uninsured (28 percent of all visits). Those living in rural areas are more likely to use public facilities (78 percent of all visits) than those living in urban areas (38 percent of all visits), simply because very few private facilities are located in rural areas. As expected, those in the highest income quintiles are more likely to use private facilities (89 percent of all visits) as compared to those in the lowest income decile (54 percent of all visits).

Table ES-10: Choice of Provider for Outpatient Visits

Category	Public Providers	Private Providers
Total Sample	47%	53%
Gender		
Males	46%	54%
Females	48%	52%
Insurance Status		
Insured	64%	36%
Uninsured	28%	72%
Place of Residence		
Urban	38%	62%
Rural	78%	22%
Income Status		
Lowest Decile	54%	46%
Highest Decile	11%	89%

Source: JLCS, 1996

Based on the utilization data presented in Table ES-11, access to health care does not appear to be a major problem. Significant differences in use rates between the insured and uninsured, rich and poor, urban and rural areas observed in other countries are not evident in Jordan. That the insured are far more likely to visit public facilities and the uninsured private facilities might mean that the uninsured bear a much greater out-of-pocket burden than the insured. JLCS data does not allow us to explore this issue of equity further.

Table ES-11: Individuals Reporting an Episode of Illness (Past Two Weeks)

Category	Percent
Total Sample	9%
Gender	
Males	9%
Females	10%
Insurance Status	
Insured	9%
Uninsured	10%
Place of Residence	
Urban	10%
Rural	7%
Income Status	
Lowest Decile	12%
Highest Decile	10%

Source: JLCS, 1996

Estimation of Extent of Multiple Insurance

Multiple insurance and its impact on the use and cost of health care pose an important policy concern. On one hand, multiple insurance may be a way for households to cover gaps in benefits and expand their choice of providers. On the other hand, multiple coverage may allow duplication of services, excess use, and lack of coordination, which can lead to inefficiencies and cost increases. As indicated in Table ES-12, almost one-fifth of the insured population has multiple coverage. Estimates of the percentage of those with multiple insurance coverage are derived by relying on previous PHR studies⁴ that assessed and analyzed the insurance sector, as well as collection of data directly from the CIP, RMS, MOH, and JUH. The PHR studies estimated that 32 percent of the population, or 1,521,840 individuals, are uninsured, implying that the remaining 68 percent, or 3,233,910, of the population is insured. However, estimated number of insured is 3,873,200, suggesting that there is multiple coverage to the extent of 20 percent (3,873,200/3,233,910). This estimate will be further updated once the Jordan Household Expenditure and Utilization Survey data becomes available.

Table ES-12: Breakdown by Insurance Coverage

Population Groups	Total	Percent
Total Population	4,755,750	100%
Profile of the Insured Population		
Government Employees (CIP enrollees)	1,008,000	21%
RMS Beneficiaries	1,584,000	33%
JUH Beneficiaries	25,000	1%
Private Insurance	240,000	5%
Insured Refugees	864,000	18%
Employees in Self Insured Firms	152,200	3%
Subtotal Insured Persons	3,873,200	81%
Uninsured Population	1,521,840	32%
Percent of Insured with Multiple Coverage		19.7%

Note: Based upon PHR studies of the uninsured, third party insurance, private employers who offer health benefits to their employees and data collected from CIS, RMS, and JUH. This probably underestimates the extent of multiple coverage.

Cross-country Comparative Analysis

As shown in Table ES-13, Jordan lies in the middle of the spectrum of Middle East and North African (MENA) countries in terms of GDP and GDP per capita. However, in terms of expenditure as a percentage of GDP and per capita health care expenditure, Jordan surpasses most of the MENA countries, except Lebanon. Jordan spends slightly more than 9 percent of its GDP on health care. Public expenditure as a percentage of total health spending is higher in Jordan than in most countries in the region.

⁴ PHR Studies on Insurance are: 1) Hollander and Rauch, 1998, 2) Banks, Miburn and Sabri, 1999, and 3) Banks and Sabri, 2000.

Table ES-13: International Comparison of Health Expenditures as a Percentage of GDP

Country or Region	GDP Per Capita	Health Expenditure	Health Expenditures as Percentage of GDP (early 1990s)		
	(US\$)	(per capita US\$)	Total	Public	Private
Yemen	449	19	5.0	1.5	3.5
Egypt	1,016	38	3.7	1.6	2.1
Morocco	1,241	49	4.0	1.3	2.7
Jordan	1,475	136	9.1	5.2	3.8
Iran	1,776	101	5.7	2.4	3.3
Tunisia	2,001	105	5.9	3.0	2.9
Lebanon	2,776	389	9.8	2.2	7.6
MENA	5,608	116	4.8	2.6	2.2
E. Asia & Pacific	970	28	3.5	1.5	2.0
OECD	24,930	1,827	8.3	6.5	1.8

Sources:

World Bank, 2000a and 2000b

Schieber G, Maeda A, 1999

Egypt National Health Accounts 1998

Lebanon: Preliminary NHA 1998 findings

Yemen: Preliminary NHA 1997 findings

Notes: MENA Average includes the Gulf States (1994).

OECD estimate is for 1994.

As shown in Table ES-14, high levels of education and improvement in the nutritional status of the population continue to contribute to reducing the mortality rates. Jordan has the lowest under five mortality rate and second lowest maternal mortality rate. Despite improved literacy and mortality rates, the total fertility rate (TFR) in Jordan is far higher than all of its neighbors, except Yemen. Even after a substantial decline in the TFR, it stands at 4.4 children per woman in Jordan as compared to 3.4 in Egypt, 3.1 in Morocco, and 2.7 in Lebanon (World Bank, 1997, Macro International, 1997).

Table ES-14: International Comparison of Fertility and Mortality Rates

Country	Total Fertility Rate	Mortality Rate	
		Under Five Years	Maternal
Yemen	7.6	113.0	1,471
Egypt	3.4	64.5	170
Morocco	3.1	68.0	372
Jordan	3.9	31.5	132
Iran	2.8	51.5	120
Tunisia	2.6	37.0	139
Lebanon	2.7	35.0	300

Sources: World Bank, 1997b
MOH, 1998

Main Policy Issues

- > **Sustainability:** According to the Jordan NHA estimates, Jordan spends nearly 9.12 percent of its GDP on health care services. Given that the population of the country is expected to double within the next 15 years, that chronic health conditions are increasing, and that the population is aging, such information should be of paramount concern to policymakers. Unless there are significant gains in the country's economic performance, the current pattern of health care expenditures (as a percent of GDP) will cause significant pressures on government expenditures in this area. In the long term, this will likely adversely affect the current level and quality of services provided.
- > **Cost Containment:** Centralized budgeting and managerial controls extend little authority and discretion to managers of public facilities. Hence, managers are provided with few incentives to engage in cost containment efforts. Conversely, private sector providers are reimbursed on a fee-per-service basis, which may provide them with an incentive to provide unnecessary services. The most expensive health services (hormonal treatment, dialysis, and treatments for cancer, contagious diseases, accidents due to natural catastrophes, mental health, alcohol and drug addiction, and different types of anemia) are provided by the MOH to all citizens, irrespective of income.
- > **Efficiency:** The Jordan NHA findings draw attention to relative efficiency within the health care sector from two perspectives: The efficiency of the entire health care sector, with respect to other sectors in the economy; and, the relative efficiency of specific areas within the health care sector. Emphasizing these two perspectives allows policymakers to think in terms of the return value on their investments in the health care sector, as well as the trade-offs that must be realized when funds are diverted from other sectors into the health care sector.
- > **Reallocating Expenditures from Curative to Primary Health Care:** Under the present breakdown of expenditures, 58 percent of the resources are allocated to curative care and only 27 percent to prevention. An investment in preventive measures is likely to result in substantially limiting curative expenditures in the future. It is necessary to identify areas where comprehensive prevention programs can be launched or expanded. Potential areas include smoking prevention programs, road accidents, obesity, vaccines and immunization, and family planning.

- > **Controlling Capital Investment in the Private Sector:** Indiscriminate capital investment in the private hospital sector and minimal regulation have resulted in a surge in the number of private hospitals. The private sector recorded the lowest occupancy rate and the highest percentage of surplus beds. The occupancy rate in all hospitals, public and private, ranges from 45 to 70 percent. Utilizing an optimal occupancy rate of 80 percent, it becomes apparent that a significant amount of excess capacity exists in the private sector.
- > **Rationalizing Expenditures on Pharmaceuticals:** Pharmaceuticals account for 35 percent of total health care expenditures. This level of expenditures is likely due to the lack of a significant policy for using generic drugs as substitutes for other equivalently higher priced prescription drugs. Hence, to effectively contain overall health care expenditures, the government of Jordan should engage in an effective policy for improving the efficiency by which pharmaceuticals are distributed and sold in Jordan.
- > **Expanding Health Insurance Coverage to the Uninsured and Limiting Multiple Coverage:** Approximately one-third (32 percent) of the population in Jordan is uninsured, and an estimated 20 percent have multiple health insurance coverage. It is of import for the government to address and resolve these issues. On the one hand, multiple health insurance coverage allows beneficiaries to over-utilize health care services, leading to higher overall expenditures on services, while on the other hand having such a disproportionate number of uninsured persons may lead to significantly higher out-of-pocket expenditures.
- > **Equity:** Over 50 percent of the uninsured utilizes private health care facilities as their first place of consultation. Hence, a significant share of the uninsured are spending out-of-pocket for their services. This has enormous implications for equity in distribution of services, given that the current system may impose a disproportionate cost burden on uninsured households and individuals.
- > **Improving the Quality of Care:** Given the highly centralized public sector, the lack of managerial control that is allocated to MOH hospital directors, staffing imbalances, and lack of autonomy in the procurement of supplies are likely to have some adverse effects on the quality of care rendered by public hospitals.

Process and Lessons Learned

The six major obstacles experienced in compiling the NHA are listed below:

- 1) *Availability of Data:* In the public sector little attention is paid to the monitoring of funds flowing into and out of the system. Team members from the MOH and JUH experienced a great deal of difficulty in collecting data on expenditures and revenues. The RMS, on the other hand, has an effective accounting information system in place and was able to gather data with relative ease. Each public entity experienced some degree of difficulty in compiling financial information by category and line item. Collecting information on the distribution of expenditures by function, and establishing links between expenditures and utilization proved challenging. In addition, MOH expenditure and cost data at the governorate level are unavailable. Little expenditure information existed on households, and relatively none existed on private sector providers. The list of data sources can be found in the bibliography.

- 2) *Quality, Validity, and Reliability of Data:* Absence of an effective health information system at JUH and the MOH resulted in data that might be somewhat unreliable. Conscious of the fact that the quality and validity of data would be questionable, extra effort was spent ensuring that data for the NHA report are the best available. Such data iterations have been laborious and time consuming. This can be avoided in the future if a data collection and management system is instituted.
- 3) *Non-conventional Accounting Methods:* Significant transfers take place outside the normal budgetary process, making it difficult to capture certain expenses (examples include transfers from the MOF to cover CIP deficit and transfers from general revenues to cover “special” costs). Book transfers between RMS and MOH do not reflect the true cost of providing services at either organization. MOH estimates that 25 percent of its inpatient admissions are accounted for by RMS beneficiaries, and they receive only JD 4 million in “notional” book transfers against a cost of nearly JD 20 million.
- 4) *Standard Accounting Definitions:* A lack of uniform definitions, codes for budgetary items, functions and services, and services rendered, throughout the health sector, has caused significant difficulties in compiling this NHA report. The RMS and MOH definitions and codes are consistent; however, those used by JUH are unique.
- 5) *Level of awareness and support for NHA:* The level of awareness and support for the NHA activity has varied throughout the three public entities. Even though NHA team members from each organization were fully committed to the value of NHA in Jordan, the level of support throughout other governmental sectors is ambivalent.
- 6) *Health Expenditure Information Not Used for Forecasting or Planning Purposes.*

Recommendations by NHA Team for Institutionalization of NHA

Step 1: Inform senior policymakers, both within and outside the MOH, of NHA results and their relevance to planning and policy formulation. This can be achieved by organizing internal dissemination and discussion meetings at MOH, RMS, and JUH to ensure support and an appreciation of the findings. At some point in time, a national dissemination workshop, under the auspices of the Prime Minister or the Minister of Health, must be commenced. Representatives from the MOF, Ministry of Planning (MOP), the Higher Health Council, and the private sector should attend.

Step 2: Institutionalize the NHA activity at the national level. This can only be assured if a parliamentary decree is issued. Such a decree might establish a National Health Accounts Steering Committee (NHASC). The NHASC should consist of representatives from the MOH, CIP, MOP, MOF, RMS, JUH, and the private sector. The NHASC will be responsible for the annual production of NHA reports, their dissemination and use in the policy process. Hence, the NHASC should have a technical body made up of the existing NHA team and representatives from the MOF, MOP, and the private sector.

Step 3: Provide continued support to capacity building and development of standardized financial management and accounting systems in the public and private sector, in the reporting of health care expenditure and utilization information.

Step 4: Use experience gained over the next three years to decide on an optimal system for sustaining the NHA activity in Jordan.

1. Introduction

1.1 Development of Jordan's National Health Accounts

National Health Accounts (NHA) is designed to give a comprehensive description of resource flows in a health care system, showing where resources come from and how they are used. Although previous health care expenditure studies have been carried out in Jordan, none has used the integrating framework of NHA to organize and compile data.

At present, there is a limited amount of comprehensive reliable data on demographic factors, utilization rates, insurance coverage, or hospitalization rates. Lack of reliable data on mortality and morbidity rates poses a big problem in accurately assessing Jordan's health sector. Almost 50 percent of deaths goes unreported and few indicators exist that reliably report morbidity (World Bank, 1997a). Limited data also make it difficult for health planners to evaluate actual needs of the population, or to assess, in any systematic way, the performance of the health system. Pluralism of the health care system exacerbates the difficulty in data collection and assessment. The other real issue that complicates planning is the fact that many individuals and their dependents are enrolled in more than one insurance program. In many instances individuals buy additional private insurance to supplement their existing coverage. As a result of multiple coverage, it is difficult to plan, monitor, and control expenditure. Multiple insurance also enhances the possibility of individuals "double dipping" or claiming reimbursements from different insurance plans. Multiple coverage of individuals also makes it difficult to ascertain the exact number of insured and uninsured. Under the auspices of the Partnerships for Health Reform (PHR) Project, a study was conducted to profile the uninsured. It found that approximately 1.5 million or 32 percent of the population is uninsured (Banks, Milburn and Sabri, 1999).

To overcome the paucity of essential planning data, the Ministry of Health (MOH), with United States Agency for International Development (USAID) support, launched an intensive program of research and data collection in 1997. Under PHR, several activities were designed to develop an information base to support data-based policy solutions. Several activities have been carried out under this program of collaborative research and analysis:

- > Development of NHA;
- > Assessment of third party payers in Jordan;
- > Profile of the uninsured;
- > Decentralization of MOH hospitals;
- > Health worker motivation study;
- > Health benefits provided by private sector employers;
- > PHR scholars program; and

- > National household survey of health care and utilization and expenditure.

Jordan is one of eight countries⁵ participating in the Regional National Health Account initiative, supported by USAID, the World Bank, and the World Health Organization (WHO/EMRO). The exercise of generating Jordan NHA is a collaborative effort between representatives of the MOH, Royal Medical Services (RMS), Jordan University Hospital (JUH), and PHR. The NHA team is led by Dr. Hani Brosk of the MOH, and Dr. Dwayne Banks, PHR Chief of Party. Other MOH members of the team are Dr. Taher Abu El-Samen, Dr. Jamal Abu Saif, Dr. Abdel Razzaq Shafei, Dr. Taissir Fardous, Dr. Ayyoub As-Sayaideh, Mr. Maher Odeh, and Mrs. Lubna Al-Shatwieen. The JUH team includes Dr. Munif Qtaishat, Mr. Fayez Madeein, and Mr. Sultan Dibi (Accounting). Members of the RMS team are Lt. Colonel Hashem Irshaid, Major Ali Al-Madani, and Major Ziad Ziadat. Other PHR team members are Dr. A.K. Nandakumar, Ms. Manjiri Bhawalkar, and Mr. Ibrahim Shehata. The effort commenced in 1998 and has taken over a year. During this time the NHA team has collected data systematically from various entities, analyzed it, and participated in local and regional workshops.

1.2 Organization of Report

This report presents the results of the 1998 Jordan National Health Accounts (JNHA) for the fiscal year 1998. The next section provides background information on economic conditions, demographic trends, and the structure of the health sector in Jordan. Section 3 presents a brief overview of the NHA results with some international comparisons. Section 4 presents key findings of the NHA at the national level, including total health expenditures and sources, uses, and flow of funds in the health sector. Section 5 is a detailed discussion of the NHA results at the sub-system level. The policy implications of NHA findings are discussed in the section 6 in terms of equity, sustainability, and efficiency. The methodology and lessons learned are iterated in section 7. Finally section 8 presents institutional arrangements necessary to sustain the NHA activity in the future.

⁵ Other countries are Djibouti, Egypt, Iran, Lebanon, Morocco, Tunisia, and Yemen.

2. Background

2.1 Socio-Economic and Political Background

Jordan is a lower middle-income country, with a population of 4.75 million in 1998 (Hanssen-Bauer et al., 1998; henceforth referred to as the Jordanian Living Condition Survey (JLCS), 1998). In 1998, the gross domestic product (GDP) amounted to US\$ 7.01⁶ billion and per capita income US\$1,150 (World Bank, 1997a). Jordan has a small economy with limited natural resources, arid land mostly unsuitable for agriculture, and chronic water shortages; it imports most of the energy it consumes. The worldwide recession of early 1990s followed by the Gulf War severely affected Jordan's economy, causing it to decline considerably. A decline in income levels accompanied by high inflation and increased unemployment and poverty caused the national debt to reach 115 percent of the GDP in 1994 (World Bank, 1997a). The growth rate of the GDP in 1997 was 1.3 percent (Department of Statistics, Jordan, 2000).

The Arab-Israeli conflict and various wars in which the Middle East has been mired in the past 50 years have greatly shaped Jordan's history and development. Since its independence in 1946, Jordan has received three influxes of refugees from neighboring Palestine. At the end of the war in 1948, Jordan became a host for the first round of Palestinian refugees. About 20 years later Jordan received a new wave of "displaced people" when the West Bank was annexed in 1967. All West Bank refugees were given full Jordanian citizenship and representation in the Parliament. The final surge of refugees came following the Iraqi invasion of Kuwait in 1990, when a large number of emigrant workers to Gulf States were expelled and returned. In 1994, Jordan became the second country to sign a peace accord with Israel, after Egypt.

Based on the commonly used developmental indicators Jordan fares better than most countries in the low middle-income category. The majority of the populace has access to basic infrastructure like safe water, sanitation, and electricity. The overwhelming majority of Jordanians (more than 98 percent) live in permanent dwellings built with a combination of brick, concrete, and cut stone (JLCS, 1998). Government commitments to improve the overall quality of life and the social standards of its people have borne impressive results. Primary and secondary education for girls and boys alike has been made a priority. The literacy rate is more than 80 percent and Jordan has a well-developed human resource base. Jordan has compensated for the lack of natural resources by exporting surplus labor to its neighboring oil rich countries (World Bank, 1997a).

2.2 Demographic Trends

As shown in the Table 1, high levels of education and improvement in the nutritional status of the population continue to contribute to reducing the mortality rates. Jordan has the lowest under five mortality rate and second lowest maternal mortality rate among the Middle East and North African (MENA) countries represented here. However, despite improved literacy and mortality rates, the

⁶ There are differing values for GDP as well as GDP per capita depending on the source. The GDP for 1998 ranges from US\$ 7.01 – 7.39 billion. The GDP per capita for the same year ranges from US\$ 1,475 – 1,536.

total fertility rate (TFR) in Jordan is higher than most of its neighbors, except Yemen. Even after a substantial decline in the TFR, it stands at 3.9 children per woman in Jordan as compared to 3.4 in Egypt, 3.1 in Morocco, and 2.7 in Lebanon (World Bank, 1997, Macro International, 1997).

Table 1: International Comparison of Fertility and Mortality Rates

Country	Total Fertility Rate	Mortality Rate	
		Under Five Years	Maternal
Yemen	7.6	113.0	1,471
Egypt	3.4	64.5	170
Morocco	3.1	68.0	372
Jordan	3.9	31.5	132
Iran	2.8	51.5	120
Tunisia	2.6	37.0	139
Lebanon	2.7	35.0	300

Sources:
World Bank, 1997b
MOH, 1998
1999 Fertility Survey, <http://www.dos.gov.jo>

As a result of declining mortality rate and high total fertility rate, the overall population growth rate has been 3.3 percent per year between 1992 and 1998 (JPFHS, 1997). Population “momentum” as a result of increasing numbers of women entering the peak childbearing age implies population growth will continue for decades to come, even if the TFR declines. High population growth implies an increase in demand for social programs, such as education and health. As the large cohorts born in this decade enter the labor force, the overall dependency ratio⁷ will decline from its current 83 percent to 60 percent by 2015. For the same time period, the proportion of people over 65 is expected to increase from 2.9 percent in 1994 to 3.9 in 2015, while the population below age 15 is projected to decline from 42.4 percent to 33.6 percent (World Bank, 1997).

These demographic changes will warrant a health policy in Jordan that will have to account for growing demand for health care for the elderly, and continue to put pressure for maternal and child health services. Private and non-governmental organizations (NGOs) have attempted to fill in perceived gaps in provision of quality health services by the public sector (World Bank, 1997).

2.3 Health Sector

Jordan’s health system is a complex amalgam of several private and public programs. Two major public programs that finance as well as deliver care are the MOH and RMS, some smaller public programs including several university-based programs, Jordan University (JU), and Jordan University of Science and Technology. In addition, several NGOs and donor owned and operated facilities exist, the largest being United Nations Relief Works Agency (UNRWA) which provides care mostly to Palestinian refugees.

⁷ Dependency ratio is the population under 15 and over 65 divided by those between ages 15 and 64 (JLCS, 1996).

Table 2 gives a brief overview of the five sub-systems of the Jordanian health sector: the MOH, RMS, JUH, UNRWA, and the private sector. For each sub-system, data is presented in terms of health services coverage, sources of financing, prevailing provider-payer relationships, and the size of operation.

Table 2: Profile of Health Sub-systems in Jordan

Benefits by Health Subsystems	Coverage/Special Categories	Principal Financing Sources	Provider – Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Describes types of services and benefits available.	Describes coverage and eligibility criteria, special programs for specific population groups.	Describes main sources of financing.	Describes relationship between financing and service delivery functions.	Number of people covered or eligible by health system nationwide.	As indicated by staff, beds, or number of facilities.
Government Services/MOH					
<p>a) Provides comprehensive public health services; primary, preventive, and curative care through its facilities.</p> <p>b) Performs the following financing functions:</p> <ul style="list-style-type: none"> > Administers Civil Insurance Program (CIP). > Insurer of last resort for the poor. 	<ul style="list-style-type: none"> > Civil servants and dependents; and individuals certified as poor, the disabled, and blood donors. > Highly subsidized primary and curative care for the entire population. 	<ul style="list-style-type: none"> > Ministry of Finance (general tax revenues) > Ministry of Social Affairs > Service fees collected at health facilities > Co-payments for services and pharmaceuticals > Payroll deductions > Donor assistance > World Bank loan 	Ministry of Health integrated delivery system – services provided by government facilities financed through budget and salaried civil service staff.	<p>23 percent (persons enrolled in CIP).</p> <p>Under public law, MOH is required to provide subsidized care to all Jordanian citizens.</p>	<p>Operates</p> <ul style="list-style-type: none"> > 42 comprehensive health centers > 327 primary health centers > 277 village health centers > 322 maternity and child health care centers > 212 dental clinics > 11 chest diseases centers > 22 hospitals > 3192 hospital beds (37%)
Royal Medical Services					
Primary and curative care services	<ul style="list-style-type: none"> > Military personnel and their dependents. > Other referrals from MOH and JUH, and contractual agreements with public firms. 	<ul style="list-style-type: none"> > Government budget > User fees > Co-payments (based on army rank and status) > Minor cost sharing for pharmaceuticals 	Integrated delivery system comprising RMS outpatient clinics and hospitals. Referrals to MOH facilities.	35 percent	<p>Operates:</p> <ul style="list-style-type: none"> > 81 ambulatory care centers > 5 clinics > 10 hospitals > 1828 hospital beds (21.3%)

Benefits by Health Subsystems	Coverage/Special Categories	Principal Financing Sources	Provider – Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Jordan University Hospital					
a) Serves as a fee-for-service referral center for other public programs and private payers. b) Owns and operates outpatient clinics and inpatient facilities for primary and curative care.	Covers its employees and dependents	> Ministry of Finance > Ministry of Health > User fees	Serves as fee-for-service referral center for other public programs and private payers	Less than one-half of one percent.	> 1 hospital > 494 hospital beds (5.8%)
United Nations Relief Works Agency					
a) Owns and runs primary health care centers. b) Refers hospital care to MOH or private facilities.	Provides care to 400,000 Palestinian refugees.	Financed through outside donor contributions.	Operates and owns primary health care clinics managed by its own staff.	400,000 Palestinian refugees	> 23 Clinics
Private Health					
a) Owns and operates private clinics and hospitals for primary and curative care. b) Owns and operates pharmacies.	> Beneficiaries of any private health plan self-insured. > Company employees and their dependents. > All citizens with willingness to pay.	> Direct out-of-pocket payments. > Payments from insurance plans. > Payments from employees and employers.	Private hospitals and clinics, by contract. Fee-for-service, or through a third-party payer (insurance company or employer)	All citizens with a willingness to pay are eligible.	> Number of clinics not available > 50 hospitals > 3051 hospital beds (35.6%) > 1,500 pharmacies

3. Overview of NHA Results

According to the first National Health Accounts estimate, in 1998 Jordan spent approximately JD 454 million (US\$ 647 million) on the health sector, which accounted for 9.12 percent of the GDP. Health expenditure per capita in 1998 was JD 95 (US\$ 136).

Almost 47 percent of the total funds originates from private sources, whereas 45 percent is apportioned public funds, and the remaining 8 percent is contributed by international donors or other sources. The private sources comprise of premiums paid by people for private commercial insurance, expenditures incurred by self-insured companies that directly pay for health care services for their employees, and out-of-pocket expenditure for health care and for drugs at pharmacies. The public sources are made up mainly of tax revenue allocations by the Ministry of Finance (MOF) to MOH, RMS, and JUH.

Rapid expansion of the private hospital sector has adverse implications on resource allocation. Almost 58 percent of public health expenditure is on curative services and 27 percent on preventive measures. Approximately 5 percent is spent on administrative activities, 3 percent on training, and 7 percent on other or miscellaneous activities. Even as the financing in the entire health sector is highly fragmented, within the public and private sector it is highly centralized and controlled leaving little room for flexibility and maneuverability at the facility level.

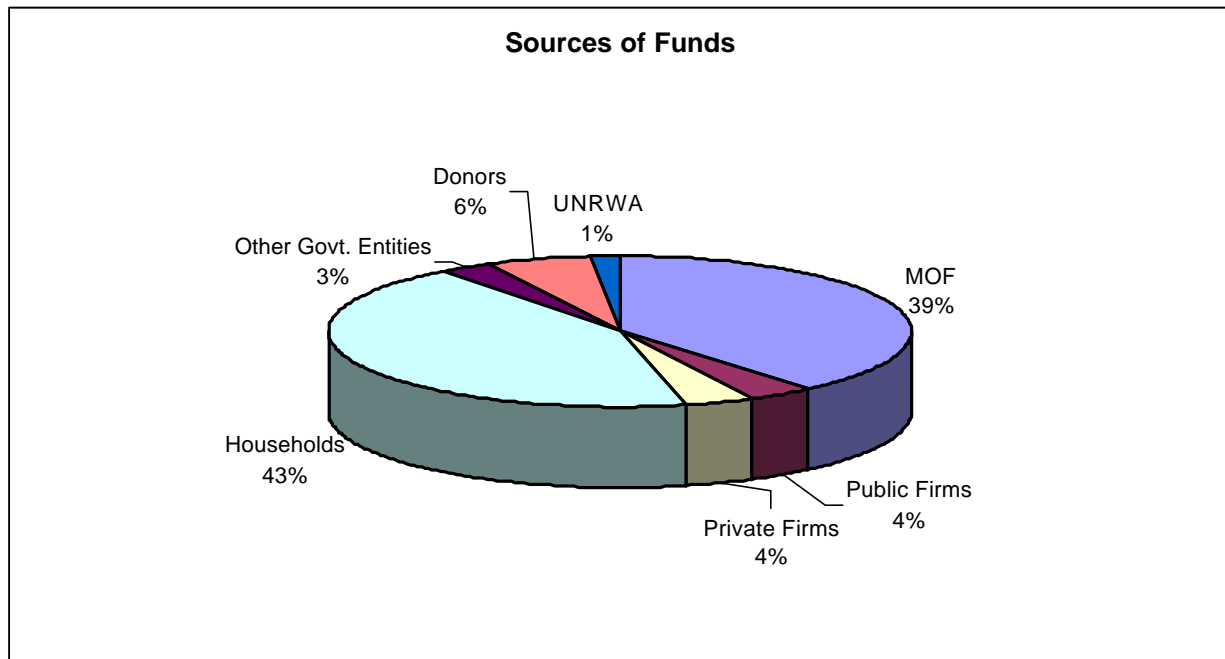
The MOH and RMS have centralized management systems for allocating resources to individual facilities. Individual facilities are not allocated their own operating budget, but receive receipt-based reimbursements from the central MOH and RMS departments for supplies, equipment, pharmaceuticals, salaries, etc. Facility managers have little discretion over schedules of charges from uncovered individuals. The JUH has a budget but also receives reimbursements from charges for individuals not covered through the JUH. Private sector facilities and practitioners operate in a largely unregulated environment at set prices.

3.1 Jordanian Health Care Dinar: Where It Comes from and Where It Goes

A simplistic view of the flow of funds in the health sector can be visualized as a two-step process. Funds flow from sources to financing intermediaries and then to end-users. In reality, the exchange of funds and services between different parties follow more circuitous patterns within the framework.

As indicated in Figure 1, the top two sources of funds are households and the MOF, which account for 43 and 39 percent of the sources, respectively. Donors, private and public firms, and other sources account for the remaining 18 percent.

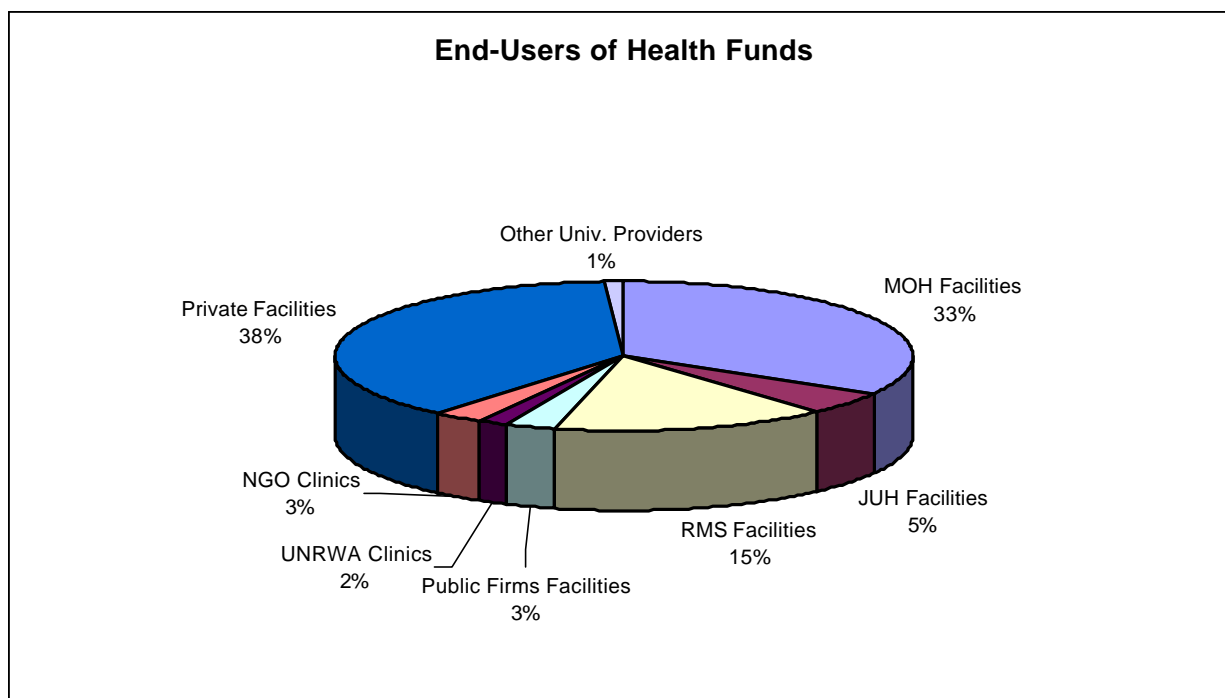
Figure 1: Sources of Health Funds



Source: NHA spreadsheets

Clinics and facilities owned and operated by the MOH, RMS, and JUH constitute public facilities. They receive 53 percent of the total payments. Payments to the MOH account for 33 percent, RMS account for 15 percent, and JUH account for 5 percent. Providers in the private sector, which includes hospitals, outpatient clinics, and pharmacies, receive 38 percent of the payments. Public firms that either have in-house medical facilities or contractual agreements with outside medical service providers spend 3 percent of the total health expenditure on their employees. NGO-owned and operated clinics account for 3 percent. UNRWA spends 2 percent of the total health expenditure on Palestinian refugees, and other university providers account for 1 percent.

Figure 2: End-Users of Health Funds



Source: NHA Team

3.2 Pharmaceutical Expenditures

Keeping in line with the overall expenditure on health care services, pharmaceutical expenditure also appears to be excessive in Jordan. It accounts for slightly more than one-third (35 percent) of the total expenditure on health care, equivalent to 3.2 percent of the total GDP. In 1998, MOH estimated the total national expenditure on drugs to be approximately JD 158 million. Approximately 24 percent of the total pharmaceutical expenditure is incurred in public facilities, and 76 percent in private facilities. This level of expenditure on drugs, similar to expenditure on other health care services, is more comparable to Organization for Economic Cooperation and Development (OECD) of the countries, and will prove difficult to sustain in the long run.

3.3 Cross-Country Comparative Analysis

Jordan lies in the middle of the spectrum of Middle East and North African countries in terms of GDP and GDP per capita. However, as evident in Table 3, in terms of expenditures on health care, Jordan surpasses most of the MENA countries, except Lebanon. Jordan spends slightly more than 9 percent of its GDP on health care, almost twice the regional average and comparable to the OECD average. Only Lebanon exceeds Jordan in per capita health care expenditures. Public expenditure as a percentage of total health spending is higher in Jordan than most countries in the region.

Table 3: International Comparison of Health Expenditures as a Percentage of GDP

Country or Region	GDP Per Capita	Health Expenditure	Health Expenditures As Percentage of GDP (early 1990s)		
	(US\$)	(per capita US\$)	Total	Public	Private
Yemen	449	19	5.0	1.5	3.5
Egypt	1,016	38	3.7	1.6	2.1
Morocco	1,241	49	4.0	1.3	2.7
Jordan	1,475	136	9.1	5.2	3.8
Iran	1,776	101	5.7	2.4	3.3
Tunisia	2,001	105	5.9	3.0	2.9
Lebanon	2,776	389	9.8	2.2	7.6
MENA	5,608	116	4.8	2.6	2.2
E. Asia & Pacific	970	28	3.5	1.5	2.0
OECD	24,930	1,827	8.3	6.5	1.8

Sources:

World Bank, 2000a and 2000b

Schieber G, Maeda A, 1999

Egypt National Health Accounts 1998

Lebanon: Preliminary NHA 1998 findings

Yemen: Preliminary NHA 1997 findings

Notes: MENA Average includes the Gulf States (1994).

OECD estimate is for 1994.

4. Jordan National Health Accounts Results: National Level

4.1 Structure of National Health Accounts Results

The government of Jordan and its international partners are currently working to develop a new policy framework in order to improve the equity and efficiency in the health sector. The NHA data is expected to facilitate the evaluation of different reform options that are being considered by the government of Jordan. In assessing the current situation and performance of the health sector, a most basic requirement is a comprehensive understanding of the financing of health services. The structure and operation of the financing system has significant influence on the overall behavior and effectiveness of the health care system as a whole.

The objective of the Jordan National Health Accounts (JNHA) is to describe in a comprehensive manner the flow of all expenditures within Jordan's health care sector, including both public and private funding. The JNHA describe these expenditures in a matrix structure, which distinguishes between the sources and final use of funds. The matrix structure consists of two interlinked matrices to reflect that many expenditure flows do not pass directly from the original funding source to the final providers of services. A large proportion of overall health care resources is passed through intermediary financing agents before being used finally for the provision of services. For example, individuals and firms pay premiums to both private and social insurance schemes, which in turn pay medical providers for their services rendered to the covered individuals. NHA can also examine the use of funds along other dimensions, such as the types of services produced (e.g., inpatient, outpatient services), or according to the characteristics of beneficiaries of services (e.g., geographic regions, socioeconomic and demographic groups, etc.).

The first part of the matrix depicts financial flows from the original sources of all funds, which conventionally consist of government, households, private firms, and other sources, to financing intermediaries (Table 4). The second part of the matrix describes the transfer of funds from the financing intermediaries to the end-users where the medical services are delivered (Table 5).

4.2 Flow of Funds

The JNHA is concerned primarily with capturing the flow of resources between institutional and economic entities. For this reason the emphasis is on tracing the flow of funds to the providers (or producers) of health care services. In Figure 3, the pattern of funds can be visualized. There are multiple sources that transfer funds to each intermediary financing agent. However, in the second stage of the flow between the intermediary agent and end-user, the flows are very direct and compartmentalized. Most intermediary financing agents predominantly transfer funds to facilities they own or operate. For example, the MOH as an intermediary financing agent uses 88 percent of its revenues to serve as both purchaser and provider of medical services at its own facilities. Only 12 percent of MOH revenues is transferred to other entities. Such compartmentalized flow of funds fosters a centralized system that allows very little flexibility.

Figure 3: Flow of Funds

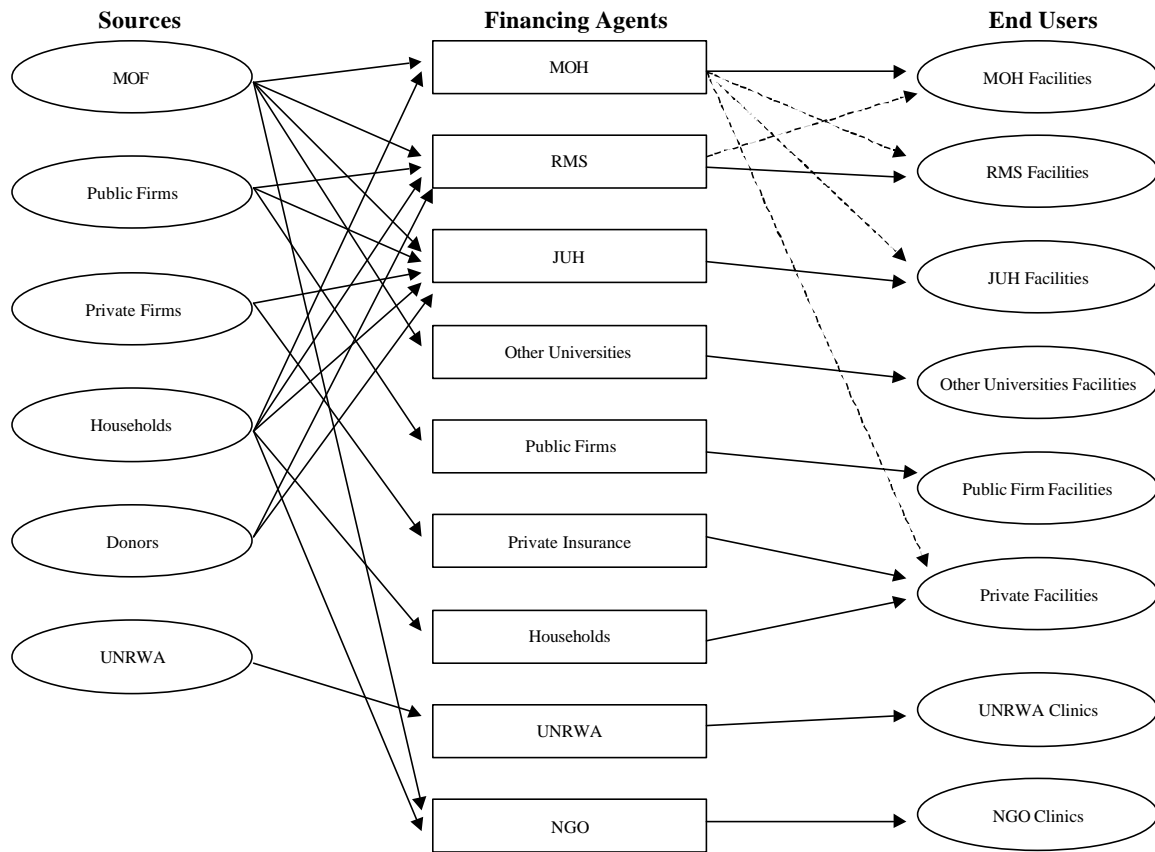


Table 4: Financing Flows – Sources to Financing Intermediaries in '000 JD (1998)

Financing Intermediaries	Primary Sources ³							Total
	MOF	Public Firms	Private Firms	Households	Donors	UNRWA	Other Govt. Entities	
MOH for JUH ¹	5,500							5,500
MOH	111,337			23,991	25,000			160,328
RMS	49,000			8,000	1,000		9,987	67,987
JUH	3,953	3,284		2,164	1,016		2,091	12,508
Public Firms		13,415						13,415
Private Insurance			11,500					11,500
Private Firms			5,500					5,500
Households				152,249				152,249
UNRWA						7,454		7,454
Other Univs.				4,497				4,497
NGOs ²	6,449			6,449				12,898
Total	176,239	16,699	17,000	197,350	27,016	7,454	12,078	453,836

Source: NHA Team

- Notes:
1. Outside the annual MOH operating Budget.
 2. The NGO's receive JD 12,898 million. Due to the lack of precise information, the amount has been arbitrarily divided equally between the MOF and households. No data were available on the amount funds international donors give to NGOs.
 3. Amounts appearing with the same primary and intermediary sources (for example, JD 152,249 for households) imply that there was no intermediary and these funds were spent directly on health care services.

Table 5: Financing Flows – Financing Intermediaries to End-Users in '000 JD (1998)

End-Users	Financing Intermediaries										
	MOH	RMS	JUH	Other Univ.	Public Firms	Private Insurance	Private Firms	Households	UNRWA	NGOs	Total
MOH Hospitals	74,336	4,000									78,336
MOH Outpatients clinics	50,331										50,331
MOH (Other) ¹	22,018										22,018
JUH (Outside Annual Budget) ²	5,500										5,500
JUH (Main Budget)	5,300		10,344				68				15,712
JUH (Other)			2,164								2,164
RMS Hospital	4,000	38,092					2,000				44,092
RMS Outpatient Clinics		14,797									14,797
RMS (Others)		11,098									11,098
Public Firm Facilities					13,415						13,415
UNRWA Clinics									7,454		7,454
NGO Clinics										12,898	12,898
Private Hospitals	2,881					3,450	1,716	23,710			31,757
Private Clinics						2,875	1,716	13,697			18,288
Pharmacists						5,175		114,842			120,017
Other Univ. Facilities				4,497							4,497
Treatment Abroad	1,462										1,462
Total	165,828	67,987	12,508	4,497	13,415	11,500	5,500	152,249	7,454	12,898	453,836

Source: NHA Team

Notes: 1. Other includes administrative expenses and training

2. Outside the JUH annual operating budget

4.3 Sources of Funds

The three major sources of financing are:

1. From the MOF to the MOH, RMS, JUH .
2. From international donors to MOH, NGOs, and UNRWA clinics.
3. From households as out-of-pocket spending in the form of user charges or insurance premiums

As indicated in Tables 6 and 7, households as a sector are the largest source of funds for health services in Jordan. Approximately 43 percent of the total spending in the health sector originates from households in the form of out-of-pocket expenditure. The MOF is the second largest financier in the Jordan health sector and accounts for 39 percent.

Table 6: Total Amounts Allocated by Original Sources (000s JD)

	MOF	Public Firms	Private Firms	Households	Donors	UNRWA	Other Govt. Entities	Total
Amount	176,239	16,699	17,000	197,350	27,016	7,454	12,078	453,836
Percent	39%	4%	4%	43%	6%	1%	3%	100%

Source: NHA Team

Notes: Numbers may not add up to 100% due to rounding

Public programs are financed from the general budget (which is revenue collected from taxation), premium contributions of civil insurance programs, and user fees levied on individuals at the point of service. The MOH, Civil Insurance Program, RMS, and JUH budgets are determined annually through the MOF, and allocated as recurrent budget and capital budget. As noted in Table 7, approximately 70 percent of the MOH budget is financed by the MOF, and the remaining by donors and households. Almost three-fourths (72 percent) of the RMS budget is allocated by the MOF. It also receives subsidies from the General Army Budget. JUH funding stems from several sources. It receives 32 percent of its total funds from the MOF, 26 percent from public firms, 17 percent from households, another 17 percent from other government entities, and 8 percent from donors. JUH functions as a fee-for-service referral center for other public programs and private payers. In 1998, international donors and UNRWA provided JD 35.5 million, accounting for 8 percent of the total health funds. Public and private firms and other government entities together provided the remaining 11 percent.

Table 7: Sources of Funds (percent)

	MOF	Public Firms	Private Firms	Households	Donors	UNRWA	Other Govt. Entities	Total
MOH	70%	0%	0%	14%	15%	0%	0%	100%
RMS	72%	0%	0%	12%	1%	0%	15%	100%
JUH	32%	26%	0%	17%	8%	0%	17%	100%
Other Univs.	0%	0%	0%	100%	0%	0%	0%	100%
Public Firms	0%	100%	0%	0%	0%	0%	0%	100%
Pr. Insurance	0%	0%	100%	0%	0%	0%	0%	100%

	MOF	Public Firms	Private Firms	Households	Donors	UNRWA	Other Govt. Entities	Total
Private Firms	0%	0%	100%	0%	0%	0%	0%	100%
Households	0%	0%	0%	100%	0%	0%	0%	100%
UNRWA	0%	0%	0%	0%	0%	100%	0%	100%
NGOs	50%	0%	0%	50%	0%	0%	0%	100%
Total	39%	4%	4%	43%	6%	2%	3%	100%

Source: NHA Team

Notes: Numbers may not add up to 100% due to rounding. The NGO's received JD 12,898 million. Due to lack of more information we have distributed the amount in an arbitrary manner between two sources. There is no data available on the amount of funds that international donors give to NGOs. Amounts appearing with the same primary and intermediary sources (for example, JD 152,249 for households) imply that there was no intermediary and these funds were spent directly on health care services.

4.4 Use of Funds

The major fund flows to end-users are:

1. From the MOH to MOH facilities.
2. From the RMS to RMS facilities.
3. From JUH to JUH facilities.
4. From the private insurance sector and households to private providers.

As mentioned earlier and evident in Tables 8 and 9, the majority of funds flows from the intermediaries (financing agents) directly to the facilities they own and operate. For example, the MOH transfers 88 percent of its budget to MOH facilities, leaving only 12 percent to be transferred to other providers (JUH, RMS, and others). The RMS allocates 94 percent of its budget to RMS facilities, and only 6 percent to MOH hospitals. The pattern is the same at JUH, other universities, and public firms, which transfer 100 percent of their budget to their respective facilities. UNRWA is an especially closed flow. UNRWA facilities receive all their funds from UNRWA and spend all their funding in their own facilities. Only private insurance companies and private self-insured firms act as true intermediaries because their funds flow to private clinics and pharmacies, and private or RMS hospitals.

Seventy-five percent of household out-of-pocket expenditures is spent on drugs at private pharmacies, 16 percent on inpatient care and 9 percent on private clinics. Together, UNRWA and NGO facilities receive 5 percent of total health sector funds. NGOs receive money from households and government. Like UNWRA, NGOs transfer all of their funds to their respective facilities.

Table 8: Funds from Sources to Financing Intermediaries (000s JD) 1998

	MOH	RMS	JUH	Other Universities	Public Firms	Private Insurance	Private Firms	Households	UNRWA	NGOs	Total
Total Allocations	165,828	67,987	12,508	4,497	13,415	11,500	5,500	152,249	7,454	12,898	453,836
Percent	37%	15%	3%	1%	3%	3%	1%	34%	2%	3%	100%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding.

Table 9: Intermediaries to End-Users (percent), 1998

	MOH	RMS	JUH	Other Univs	Public Firms	Private Insurance	Firms	Households	UNRWA	NGOs
MOH Hospitals	45%	6%	0%	0%	0%	0%	0%	0%	0%	0%
MOH Out Patient clinics	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MOH (Other)*	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%
JUH (Outside Annual Budget)	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
JU (Main Budget)	3%	0%	83%	0%	0%	0%	1%	0%	0%	0%
JUH (Other)*	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%
RMS Hospitals	2%	56%	0%	0%	0%	0%	36%	0%	0%	0%
RMS Outpatient Clinics	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%
RMS Training*	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%
Public Firm Facilities	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
UNRWA Clinics	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
NGO Clinics	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Private Hospitals	2%	0%	0%	0%	0%	30%	31%	16%	0%	0%
Private Clinics	0%	0%	0%	0%	0%	25%	31%	9%	0%	0%
Pharmacists	0%	0%	0%	0%	0%	45%	0%	75%	0%	0%
Other Univ. Facilities	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Treatment Abroad	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding. *Includes training and other administrative activities

4.5 Trends in Public Expenditure

Growth of Public Expenditure: 1996-1998

As evident in Table 10, total public expenditure has gone up by almost 24 percent from 1996 to 1998. There is a significant increase in capital investment as well as in the amount of other expenses. Table 11 shows that the distribution of expenses has changed only slightly. The general trend appears to be a steady decline in the proportion of recurrent expenditure and increase in capital investment. Recurrent expenditure consists of items such as salaries, drugs, supplies, and maintenance. Capital investment includes expenditure on medical and non-medical equipment, as well as construction. The other category comprises treatment abroad, training, consulting service contracts, repayment of debts, and so on. JUH spends more on other items compared to the other two public entities. As seen in Table 11, 93 percent of the total expenditure for public entities is recurrent in 1996. However, this proportion has dropped by 3 percentage points to 90 percent in 1998. The largest contributor to this decline is the JUH, as it experienced an 8 percentage point drop in its recurrent expenditure, from 96 percent in 1996 to 88 percent in 1998. A decline in the recurrent expenditure is accompanied by an increase in the proportion of capital investment budget and other expenses. The proportion of capital investment in 1998 has increased by two percent and other expenses increased by one percent. As indicated in Table 11, the percentage of expenditures on recurrent, capital, and other costs has not changed significantly from 1996 to 1998. Recurrent costs predominate the expenditures, followed by capital costs and other costs.

Table 10: Public Entities: Type of Expenses, 000s JD

	1996	1998	Percent Change
Expense			
Recurrent	174,837	209,557	20%
Capital Investment	11,066	18,945	71%
Other	2,540	4,684	84%
Grand Total	188,443	233,186	24%

Source: NHA Team

Table 11: Public Entities: Type of Expenses (percent)

	1996				1998			
Type of Expense	MOH	RMS	JUH	Total	MOH	RMS	JUH	Total
Recurrent	92%	93%	96%	93%	90%	89%	88%	90%
Capital Investment	7%	5%	2%	6%	8%	9%	7%	8%
Other	1%	1%	2%	1%	2%	2%	4%	2%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding

4.6 Functional Distribution of Public Expenditure: 1996-1998

Distribution of funds by function refers to what funds are paying for, as in type of health services, training, and administration. As expected, most of the public sector funds is for curative services (Table 12). This proportion did not change between 1996 and 1998. The distribution of expenses between curative care and primary care has not changed significantly over the two years. A decline of 4 percent is evident in the administrative expenses. The proportion of training expenses has held steady at 3 percent since 1996.

Table 12: Public Expenditure by Function (percent)

Type of Activity	1996	1998
Curative Care	58%	58%
Primary Care	26%	27%
Administrative	9%	5%
Training	3%	3%
Others	4%	7%
Total	100%	100%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding

5. Jordan's NHA Results: Sub-Systems Level

Discussion of the size, structure, and efficiency of the major sub-sectors in Jordanian health is based on NHA and other data.

5.1 Ministry of Health

5.1.1 Organization and Size of the MOH

The Ministry of Health is the largest single institutional financier and provider of health care services in Jordan. In 1998, the MOH budget accounted for 5.8 percent of the general budget. The proportion of general budget funds allocated for the MOH has varied only slightly in the past five years (MOH, 1998). It has ranged from 5.1 to 5.8 percent since 1994. The MOH also is largest in terms of the size of its operation as compared to RMS, JUH, or the private sector. The MOH owns and operates 83 hospitals in 10 governorates, and has the most hospital beds (3,192), followed by the private sector.

The Table 13 sheds some light on the distribution of MOH hospitals. As expected they are highly concentrated in urban areas, particularly in Amman. Beds per 10,000 people in urban areas are comparable to the national average, whereas this ratio in rural areas is higher, with the exceptions of Balqa and Ma'an. The high number of beds per 10,000 people is probably because of low population in those two governorates.

Table 13: Number of MOH Hospitals Beds, 1998

Governorates	Number of Beds	Population	Beds per 10,000
Amman	992	1809775	5.48
Irbid	578	848340	6.81
Zarqa	424	747860	5.67
Balqa	458	312155	14.67
Mafraq	155	219040	7.08
Karak	151	191405	7.89
Jarash	135	139815	9.66
Madaba	86	121275	7.09
Ajloun	91	105520	8.62
Ma'an	122	92745	13.15
Total	3192	4587930	6.71

Source: MOH, 1998.

Note: Aquaba and Tafielah are excluded as MOH does not have any facilities in those two governorates.

As indicated in Table 14, the health directorates of Karak and Irbid have the highest number of facilities in the country, followed by Amman and East Amman. The number of primary health care centers and maternal and childcare centers are comparable, each accounting for almost 28 percent of the total number of clinics. Approximately 24 percent of clinics are peripheral clinics and 18 percent are dental.

Table 14: MOH Primary Health Care Centers by Health Directorate

	Comprehensive	Primary	Peripheral	Maternity & Child Care	Dental Clinics	Total
Amman	8	31	10	30	29	108
E. Amman	4	20	25	20	14	83
Madaba	1	11	14	12	8	46
Zarqa	3	24	13	27	18	85
Irbid	5	42	14	35	25	121
N. Agwar	0	8	6	7	3	24
Ramtha	0	10	1	10	6	27
Al Kura	0	13	0	13	5	31
Bani Kenanah	1	14	6	16	9	46
Jarash	0	13	13	12	10	48
Ajloon	2	11	13	15	11	52
Ma'raq	2	21	29	15	11	78
N. Badih	2	13	16	5	6	42
Balqa	3	22	16	23	15	79
Deir Alla	1	6	7	7	2	23
S. Shouneh	0	7	5	7	2	21
Karak	5	34	37	39	15	130
Tafleh	2	9	10	14	8	43
Ma'an	3	9	32	8	9	61
Aqaba	0	9	10	7	6	32
Total	42	327	277	322	212	1180
Percent	3.6	27.7	23.5	27.9	18.0	100

Source: MOH, 1998

Table 15 indicates the size of the MOH operation and its share in the provision of hospital services in Jordan. The occupancy rate of MOH hospitals is at the upper end of the range (49 percent–70 percent). The average length of stay is 3.3 days. The total number of admissions has increased by approximately 22 percent between 1994 and 1998 (Table 16). The death rate has actually dropped since 1997. The occupancy rate has gone up slightly, whereas the average length of stay dropped slightly, to 3.3 days.

Table 15: MOH Hospitals: Utilization and Efficiency Indicators, 1998

Sector	No. of Beds	Admissions	Discharged		Death Rate	Avg. Length of Stay	Occupancy Rate	Outpatient Visits	Surgical Operations	Deliveries
			Alive	Dead						
MOH	3,192	234,504	231,591	2,743	1.2	3.3	69.7	1,827,087	74,544	63,276

Source: MOH Annual Report, 1998

Table 16: MOH Hospitals: Utilization and Efficiency Indicators (1994-98)

		1994	1995	1996	1997	1998
Admissions		192,238	200,915	219,676	228,227	234,504
Discharged	Alive	188,384	197,800	215,164	224,081	231,591
	Dead	2,902	2,846	3,077	2,830	2,743
Death Rate		1.5	1.4	1.4	1.2	1.2
Occupancy Rate		68.1	66.3	65.8	68.5	69.7
Avg. Length of Stay		3.5	3.5	3.5	3.5	3.3
Surgical Operations		59,598	60,625	69,151	71,239	74,544
Deliveries		56,268	58,110	62,399	60,980	63,276

Source: MOH, 1998

Table 17: Distribution of Health Care Personnel in MOH in 1998

	MOH (overall)	
	Number	Population per Specialist
Physicians	2,428	603
Dentists	306	1902
Pharmacists	173	1321
Staff Nurses	1,727	342
Assistant Nurses	2,583	
Practical Nurses	2,001	
Midwives	667	

Source: MOH Annual Report, 1998

5.1.2 Analysis of MOH Funds

Sources of MOH Funds

As mentioned earlier and indicated in Table 18, most of the MOH annual budget (70 percent) comes from the MOF, 14 percent from households in the form of insurance premiums from Civil Insurance enrollees and user fees, and almost 15 percent from international donors. The MOH is also responsible for administering the Civil Insurance Program, the largest public insurance program.

Table 18: Sources of Funds for MOH, 1998, (JD 000s)

	MOF	Households	Donors	Total
Amount	116,837	23,991	25,000	165,828
Percent	70%	14%	15%	100%

Source: MOH, 1998.

Note: Numbers may not add up to 100% because of rounding.

Table 19 shows that, in 1998, the MOH received a total of JD 116.8 million, which amounted to almost 6 percent of the general budget. This proportion has varied little since 1994. The MOH budget in 1995 is unique as the share of allocation from the general budget declined to 5.1 percent from 5.4 percent in the previous year. The MOH allocations have been on a steady rise since 1995.

Table 19: MOH Budget as a Percentage of General Budget (JD 000s)

Item	1994	1995	1996	1997	1998
General Budget	1,481,000	1,674,000	1,745,000	1,916,000	1,987,000
MOH Budget	79,515	86,100	95,957	106,819	116,837
Percentage	5.4	5.1	5.5	5.6	5.9
Hlth. Insurance Budget	18,416	21,240	22,784	22,070	24,057

Sources: MOH, 1998 (for years 1994-1997);
NHA Team (for 1998)

Use of Funds

NHA analyzes the use of funds in two ways:

- a) By function – primary, curative, administrative, training, and miscellaneous.
- b) By type of expense – recurrent, capital, and other miscellaneous expenditure. Other expenses is a catch-all category which includes expenses such as travel.

When all the sources are summed, MOH received a total of JD 165.8 million in 1998. As indicated in Table 20, it allocated JD 146.7 million to facilities it owns and operates and the remaining amount of JD 19.1 million was spent on reimbursing RMS, JUH, and private providers for their services, including treatment abroad.

The total expenditure increased by approximately 31 percent between 1996 and 1998. Conforming to the pattern of distribution of total expenses by function in all public entities, the distribution of expenses between curative and primary care at MOH facilities remained relatively steady between 1996 and 1998. Even though the proportion of curative expenses actually dropped to 51 percent in 1998 from 55 percent in 1996, the actual allocation for curative care increased by 20 percent to JD 74 million. Similarly, the proportion of primary care increased only by 1 percent in 1998; however, the actual allocation increased substantially, by 37 percent in 1998. Administrative and training expenses too have held steady at 2 percent of each year's budget. However, as indicated in Table 20, an increase of over 50 percent in the budget for training is evident. The proportion of other expenses increased from 7 to 10 percent of the total expenditure by 1998. This reflects an increase of 85 percent.

Table 20: Overall Trends in Expenditures by Function at MOH, (JD 000s)

	1996		1998		Percent Change
	Amount	Percent	Amount	Percent	
Curative Care	62,164	55%	74,336	51%	20%
Primary Care	36,660	33%	50,331	34%	37%
Administrative	2,650	2%	3,148	2%	19%
Training	2,277	2%	3,515	2%	54%
Others	,288	7%	15,355	10%	85%
Total	112,039	100%	146,685	100%	31%

Source: MOH, 1998

Note: Numbers may not add up to 100% because of rounding

Tables 21 and 22 give a detailed picture of the breakdown of the expenditure by type as well as a trend over two years. The total expenditure when categorized by functions amounts to JD 146.7 million, however, when itemized by line item, it amounts to JD 135.8 million. This discrepancy arises due to the fact that MOH relies on cash-based accounting, and therefore does not monetize donor assistance received in kind. The shortfall of approximately JD 11 million in the line item total expenditure may possibly reflect the value of donor assistance received in kind.

Overall recurrent expenditures increased by 19 percent in two years from 1996 to 1998. The recurrent expenses category increased, with an exception of supplies, which dropped by 5 percent. In the capital investment category, there is a significant decline in the expenses incurred for equipment. Both medical and non-medical equipment expenditures decreased, by 21 percent and 56 percent. However, expenditure on construction increased by 180 percent. A part of this increase is allocated for expansion activity, which will further increase recurrent expenditure. Miscellaneous expenditure also increased, by 63 percent, to JD 2.2 million in 1998. The overall expenditure for MOH increased by 21 percent and amounts to JD 136 million.

From Table 22 one can observe that the share of recurrent expenditures at the MOH declined by 2 percentage points to 90 percent of the total expenditure in 1998. The fraction of overall capital investment increased only slightly, rising from 7 percent in 1996 to 8 percent of the total budget in 1998. Proportion of other expenses also increased by 1 percentage point in the same two years.

Table 21: Distribution of MOH Expenditures by Type of Expenditure, (JD 000s)

Type of Expenses	1996	1998	Percent change
Recurrent Expenditure			
Salaries	57,762	64,133	11%
Drugs	14,070	21,102	5%
Supplies	11,460	10,849	- 5%
Maintenance	7,030	9,699	38%
Food & Cleaning	6,024	6,659	11%
Treatment	6,261	9,643	54%
Training	565	749	33%
<i>Sub-total</i>	<i>103,172</i>	<i>122,834</i>	<i>19%</i>
Capital Investment			
Medical Equipment	2,380	1,872	- 21%
Non-medical Equipment	2,281	999	-56%
Construction	2,826	7,914	180%
<i>Sub-total</i>	<i>7,487</i>	<i>10,785</i>	<i>44%</i>
Other Expenses			
Other	1,380	2,250	63%
<i>Sub-total</i>	<i>1,380</i>	<i>2,250</i>	<i>63%</i>
Grand Total	112,039	135,869	21%

Source: NHA Team

Notes: Numbers may not add up to 100% because of rounding

Table 22: Distribution of MOH Expenditures by Type of Expenditure (percent)

Type of Expenses	1996	1998
Recurrent Expenditure		
Salaries	52%	47%
Drugs	13%	16%
Supplies	10%	8%
Maintenance	6%	7%
Food & Cleaning	5%	5%
Treatment	6%	7%
Training	1%	1%
<i>Sub-total</i>	<i>92%</i>	<i>90%</i>
Capital Investment		
Medical Equipment	2%	1%
Non-medical Equipment	2%	1%
Constructions	3%	6%
<i>Sub-total</i>	<i>7%</i>	<i>8%</i>
Other Expenses		
Other	1%	2%
<i>Sub-total</i>	<i>1%</i>	<i>2%</i>
Grand Total	100%	100%

Source: NHA Team.

Notes: Numbers may not add up to 100% because of rounding

5.2 Royal Medical Services

5.2.1 Organization and Size of the RMS

After the MOH, the Royal Medical Services is the second largest public entity in Jordan that provides health care. The main objective of the RMS is to provide medical services to the armed forces. These benefits are extended to the dependents of the military personnel as well as public security and civil defense personnel and their dependents. This system covers about 1.6 million individuals, accounting for 35 percent of the population (RMS, 1998). Since 1964, the number of people covered under the military insurance has increased by over 600 percent (Table 23).

Table 23: Number of Lives Covered by the RMS 1964-1998

Year	Number
1964	235,000
1976	600,000
1985	970,000
1991	1,200,000
1992	1,300,000
1993	1,463,000
1994	1,518,594
1995	1,571,745
1996	1,600,000
1997	1,640,000
1998	1,665,000

Source: RMS, Annual Statistical Report, 1998

RMS facilities, both inpatient as well as outpatient, are mainly centered in Amman and are not as widely spread out as the MOH facilities. The RMS focuses more on providing inpatient care than outpatient care, as it is evident in Table 24. The RMS has a reputation of providing high quality care, including some complex procedures and specialty treatment.

Table 24: Number of RMS Facilities, 1998

Governorates	Inpatient	Outpatient
Amman	5	4
Irbid	1	
Zarqa	1	1
Karak	1	
Aqaba	1	
Tafielah	1	
Total	10	5

Source: RMS, 1998

Table 25: Distribution of Health Care Personnel in RMS in 1998

	RMS	
	Number	Number per 100,000 Beneficiaries
Physicians	866	54
Dentists	176	11
Pharmacists	95	5.9
Staff Nurses	957	59.8
Midwives	51	

Source: RMS, Annual Statistical Report, 1998

The RMS has a little more than half (57 percent) the number of MOH hospital beds; however, the admission or patient load at RMS hospitals is less than half (43 percent) that of MOH hospitals. The occupancy rate indicated in Table 26 is about 70 percent, which is very similar to that of MOH facilities. MOH estimates that in 1998, the outpatient visits to RMS clinics exceeded that of MOH outpatient visits.

Table 27 gives insight into the type of services that are available at RMS hospitals. As mentioned earlier, specialty treatment accounts for 58 percent of the total, followed by emergency and dentistry. Al Hussein Hospital appears to be the most extensively used.

Table 28 lists the patient visits to specialty clinics according to the type of beneficiaries. The biggest proportion of expenditure is for dependents of active army personnel. As expected, active army personnel and their dependents account for 38 percent of the total expenditure. The second biggest category is retired army personnel and their dependents, which account for more than one-fourth (27 percent) of the total expenditure. Al Hussein Hospital is the most commonly used, followed by Prince Rashed and Prince Hashem Hospitals. The total number of patient visits to specialty clinics in 1998 was almost 1.4 million.

Table 26: RMS Hospitals: Utilization and Efficiency Indicators, 1998

Sector	No. of Beds	Admissions	Discharged		Death Rate	Avg. Length of Stay	Occupancy Rate	Outpatient Visits	Surgical Operations	Deliveries
			Alive	Dead						
RMS	1,828	102,711	99,676	2,231	2.2	4.5	69.9	3,275,503	39,216	22,001

Source: RMS, Annual Statistical Report, 1998

Table 27: Number of Patients Visiting the Speciality, Emergency, & Dentistry Clinics in All RMS Hospitals, 1998

Hospital	Al- Hussein	Heart Center	Rehabilitation Center	Queen Alia	Prince Rashed	Prince Hashem	Prince Ali	Princess Haya	Prince Zied	Total	Percent
Specialty Clinics	510,149	16,999	35,922	112,749	226,472	202,528	132,323	60,080	72,713	1,369,935	58%
Emergency	60,320	0	0	40,907	190,644	231,659	41,320	75,293	51,035	691,178	29%
Dentistry	91,625	0	8,734	37,338	74,769	47,055	34,133	11,362	15,264	320,280	14%
Total	662,094	16,999	44,656	190,994	491,885	481,242	207,776	146,735	139,012	2,381,393	0%
Percent	27.80%	0.70%	1.90%	8.00%	20.70%	20.20%	8.70%	6.20%	5.80%	100%	100%

Source: RMS, Annual Statistical Report, 1998

Table 28: Patient Visits to Speciality Clinics in Hospitals According to Type of Beneficiaries for 1998

Hospital	Al- Hussein	Heart Center	Rehabilitation Center	Queen Alia	Prince Rashed	Prince Hashem	Prince Ali	Princess Haya	Prince Zied	Total
Army	39,065	483	6,066	13,799	20,154	26,774	15,070	2,141	3,380	126,932
Beneficiary /Army	140,127	5,350	12,655	15,970	68,763	75,853	36,833	12,196	31,129	398,876
Public Security	16,199	49	397	7,464	3,559	3,374	4,604	877	854	37,377
Beneficiary/P.S	59,005	216	1,359	9,058	13,056	9,650	9,393	2,682	3,269	107,688
Intelligence	9,465	34	167	3,777	988	813	934	393	147	16,718
Beneficiary/Int.	24,743	49	504	5,190	4,341	3,660	1,963	907	537	41,894
Civil Defense	8,906	6	75	3,933	1,588	1,076	3,613	601	294	20,092
Beneficiary/C.D	21,127	18	209	6,337	6,723	2,555	8,089	1,380	913	47,351
Retired	32,647	2,004	2,030	11,086	18,000	20,561	12,429	1,525	3,653	103,935
Beneficiary/Retired	90,226	633	8,457	12,665	84,226	48,779	22,385	922	7,504	275,797
Royal Jordanian	9,952	88	219	4,072	246	940	103	584	4	16,208
Beneficiary/ RJ	21,695	123	878	6,024	841	2,430	173	404	5	32,573
Other Subscribers	6,534	96	3	6,230	1,158	2,928	7,066	6,466	3,085	33,566
Beneficiary/ OS	12,522	631	196	6,761	2,617	3,122	9,485	25,456	13,561	74,351
Civil/Jordanian	13,228	7,111	2,705	383	203	13	131	2,988	4,341	31,103
Civil/Non-Jordanian	4,708	108	2	0	9	0	52	558	37	5,474
Total	510,149	16,999	35,922	112,749	226,472	202,528	132,323	60,080	72,713	1,369,935
Percent	37%	1%	3%	8%	17%	15%	10%	4%	5%	100%

Source: RMS, Annual Statistical Report, 1998

5.2.2 Analysis of RMS Funds

Sources of Funds

The RMS, like all other public entities, receives most of its annual budget from the MOF, 66 percent in 1998 (Table 29). The next largest set of contributors to the RMS budget is other government entities, particularly decrees from the Royal Court. The Royal Court decrees reimburse the RMS for special cases where patients seek financial support of the Royal Court to pay for health care services. Households contribute 11 percent in the form of user fees, insurance premiums, and charges for drugs. The premium payments are based on rank and status of the military personnel. Private firms contribute 3 percent for contractual services. Jordan Telecom Company is the biggest contractor of RMS medical services. In 1998, the World Bank and other donors issued a loan for JD 1 million to upgrade and computerize the accounting and information systems at RMS. The JD 4 million from MOH is an accounting book transfer without any cash actually changing hands.

Table 29: Sources of Funds for RMS, 1998, (JD 000s)

	MOF	MOH ¹	Other Govt. Entities	Households	Donors	Private Firms	Total
Amount	49,000	4,000	9,987	8,000	1,000	2,000	73,987
Percent	66%	5%	14%	11%	1%	3%	100%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding 1 JD 4 million from MOH are a book transfer

Uses of Funds

In Table 30 one sees that even though the overall budget has increased by 10 percent between 1996 and 1998, the proportion of expenditure by function has remained somewhat the same. The RMS spends approximately 63 percent on curative care, at least 10 percent more than the amount MOH spends on curative care. This is probably because RMS is predominantly oriented to inpatient care. Preventive care, administrative duties, training and other miscellaneous activities account for 21 percent, 11 percent, and 5 percent respectively of the total budget.

Table 30: Expenditure by Function, 1998 (JD 000s)

	1996	Percent	1998	Percent	Percent Change
Curative Care	41,332	65%	44,092	63%	7%
Primary Care	12,718	20%	14,797	21%	16%
Administrative	6,359	10%	7,399	11%	16%
Training	3,179	5%	3,699	5%	16%
Others	-	-	-	-	-
Total	63,588	100%	69,987	100%	10%

Source: NHA Team

As indicated in Table 31, maintenance costs declined by 21 percent from 1996 to 1998, whereas all other recurrent costs have increased. Overall, recurrent expenditures have increased by 11 percent. The total capital investment almost doubled, mainly due to increases in construction activity (a 547

percent increase) and purchases of non-medical equipment (248 percent). Other expenses increased by a little more than half. In the same two years, the total expenditures borne by RMS increased by 16 percent.

The proportion of recurrent expenditure declined from 93 percent in 1996 to 89 percent in 1998, whereas the share of capital investment in the total budget increased from 5 percent to 9 percent in the same two years. At 2 percent, the amount of other expenses is twice as much in 1998 as it is in 1996 (Table 32).

Table 31: Distribution of RMS Expenditures by Type of Expenditure, JD 000s

	1996	1998	Percent Change
Recurrent Expenditure			
Salaries	25,540	26,946	6%
Drugs	9,018	12,228	36%
Supplies	11,375	13,197	16%
Maintenance	4,847	3,815	-21%
Food & Cleaning	3,387	4,170	23%
Treatment	4,101	4,420	8%
Training	1,100	1,300	18%
<i>Sub-total</i>	<i>59,368</i>	<i>66,076</i>	<i>11%</i>
Capital Investment			
Medical Equipment	2,518	2,311	-8%
Non-medical Equipment	253	881	248%
Construction	510	3,300	547%
<i>Sub-total</i>	<i>3,281</i>	<i>6,492</i>	<i>98%</i>
Others			
Other	939	1,419	51%
<i>Sub-total</i>	<i>939</i>	<i>1,419</i>	<i>51%</i>
Grand Total	63,588	73,987	16%

Source: NHA Team

Note: Numbers may not add up 100% due to rounding

Table 32: Distribution of RMS Expenditures by Type of Expenditure (percent)

	1996	1998
Recurrent Expenditure		
Salaries	40%	36%
Drugs	14%	17%
Supplies	18%	18%
Maintenance	8%	5%
Food & Cleaning	5%	6%
Treatment	6%	6%
Training	2%	2%
<i>Sub-total</i>	93%	89%
Capital Investment		
Medical Equipment	4%	3%
Non-medical Equipment	0%	1%
Constructions	1%	4%
<i>Sub-total</i>	5%	9%
Other Expenses		
Other	1%	2%
<i>Sub-total</i>	1%	2%
Grand Total	100%	100%

Source: NHA Team

Notes: Numbers may not add up 100% due to rounding

5.3 Jordan University Hospital

5.3.1 Organization and Size of JUH

Jordan University is the principal university in Jordan, often referred to as the “Mother University” for the role it plays in academia. Its affiliate hospital, Jordan University Hospital, which is associated with Jordan University medical school, is one of the largest in the country. JUH was built in 1973 exclusively to serve as a referral center for the MOH. However, over the years its functions have diversified significantly. It is one of the most specialized and high-tech medical centers in the public sector, along with King Hussein Medical Center. The outpatient clinics, the inpatient facility, as well as the pharmacies it operates, are all housed under the same roof.

JUH patients are referrals from the MOH and RMS, employees of Jordan University and their dependents, employees of private and public firms with whom JUH has contractual agreements, as well as some independent private (cash-payer) patients. Currently, the proportion of private patients is very low, and JUH is in the process of changing its patient mix and engaging in activities to attract private patients. An entire floor is being renovated and assigned to facilitate the provision of medical care to private payers. One of the main objectives is to encourage private business to contract with JUH to increase the profitability of the hospital. JUH’s annual budget has experienced some deficits as the reimbursement from MOH for its referrals have been insufficient to cover the costs of

providing care to these patients. JUH insurance covers a very small percentage (less than one-half of 1 percent) of the population.

JUH has 6 percent (494) of the total number of hospital beds in the public hospitals and accounts for 4 percent (22,376) of the total admissions (Table 33). JUH has only one location and outpatient clinics are in-house.

Table 33: Averages for JUH Facilities, 1998

Sector	Number of Beds	Admissions	Discharged		Death Rate	Average Length of Stay	Occupancy Rate	Outpatient Visits	Surgical Operations	Deliveries
			Alive	Dead						
JUH	494	22,376	21,892	529	2.4	5	67.0	227,621	10,727	2,607

Source: MOH Annual Report, 1998

Table 34: Number of Health Personnel at JUH, 1998

Type of Personnel	Number
Physicians	243
Dentists	25
Pharmacists	14
Staff Nurses	351
Assistant Nurses	248
Practical Nurses	14
Pharmacists	14

Source: MOH Annual Report, 1998

5.3.2 Analysis of JUH Funds

Sources of Funds

An executive decree mandated the MOF to allocate funds to cover 60 percent of the JUH annual budget. However, in practice this proportion has varied significantly. Approximately JD 3 million is a fixed transfer from the MOF to the JUH. The remaining amount is reimbursements to the JUH from the MOH, for treating referral patients covered under the Civil Insurance Program and from the RMS for treating their referral patients. As noted in Table 35, in 1998 the JUH received only 32 percent of its total budget from MOF. Households and international donors together contributed 25 percent, followed by public firms at 26 percent and other government entities, such as the Royal Cabinet, at 17 percent. Some of the public firms that do not have in-house medical facilities reimburse the JUH for medical services provided to their employees.

The MOH is not a primary source of funding for the JUH. It functions only as an intermediary financing agent that reimburses JUH for treating individuals covered under the CIP who are referred by MOH facilities. However, these reimbursements are not always sufficient to cover all costs of the treatment of the CIP enrollees, often resulting in a deficit in the JUH budget.

Table 35: Sources of Funds for JUH, 1998 (JD 000s)

	MOF	Public Firms	Households	Donors	Other Govt. Entities	Total
Amount	3,953	3,284	2,164	1,016	2,091	12,508
Percent	32%	26%	17%	8%	17%	100%

Source: NHA Team

Note: Numbers may not round up to 100% because of rounding

Uses of Funds

In 1998, JUH expenditures significantly exceeded its revenues. Total expenditures in 1998 amounted to JD 23,376 million (Table 36), resulting in a shortfall of JD 10.8 million. This shortfall can be attributed to two main causes: 1) As mentioned earlier, the JUH is not always fully reimbursed for the costs it incurs treating patients referred by other institutions. 2) There has been a substantial increase in the expenditure on drugs and clinical supplies. Since 1996, expenditures on drugs and supplies have increased by 146 and 140 percent, respectively. As a consequence of the budget deficit, the JUH has outstanding bills payable to suppliers for the drugs and supplies consumed at the hospital in 1998.

Overall JUH expenditures increased JD 10.5 million or 82 percent between 1996 and 1998 (Table 37). The proportion of administrative expenses was very high in 1996 (58 percent). It may be that salaries of physicians were included under the administrative category instead of the curative. This was adjusted in 1998, resulting in a significant drop in the proportion of administrative expenses (9 percent). Curative costs account for 91 percent of the total costs in 1998. The JUH delivers very limited preventive or primary health care services. Only one outpatient clinic affiliated with JUH offers family practice, the rest offer highly specialized care.

Table 36: Distribution of JUH Expenditures by Type of Expenditure (JD 000s)

	1996	1998	Percent change
Recurrent Expenditure			
Salaries	7,376	9,924	35%
Drugs	1,894	4,662	146%
Supplies	1,775	4,261	140%
Maintenance	458	511	12%
Food & Cleaning	339	534	58%
Treatment	455	801	76%
<i>Sub-total</i>	<i>12,297</i>	<i>20,693</i>	<i>68%</i>
Capital Investment			
Medical Equipment	182	371	104%
Non-medical Equipment	116	275	137%
Construction	-	1,022	
<i>Sub-total</i>	<i>298</i>	<i>1,668</i>	<i>460%</i>
Other Expenditure			
Other	221	1,015	359%
<i>Sub-total</i>	<i>221</i>	<i>1,015</i>	<i>359%</i>
Grand Total	12,816	23,376	82%

Source: NHA Team

Note: Numbers may not add up to 100% due to rounding

As indicated in Table 36, expenditures on drugs and supplies increased by 146 and 140 percent respectively. Overall recurrent expenditures increased by 68 percent. Increase in capital investment expenditures is even more pronounced than the increase in recurrent expenditures: An over 100 percent increase in the medical and non-medical equipment expenditure, and slightly over JD 1 million worth of construction activity caused the overall capital investment expense to increase almost six-fold. The “other” expense category also increased sharply, from JD 221,000 to over JD 1 million from 1996 to 1998.

Table 37: Expenditure by Function (JD 000s)

Type of Expense	1996	Percent	1998	Percent	Percent Change
Curative Care	5,292	41%	21,212	91%	301%
Primary Care	-	-	-	-	-
Administrative	7,376	58%	2,164	9%	-71%
Training	-	-	-	-	-
Others	148	1%	-	-	-
Total	12,816	100%	23,376	100%	82%

Source: NHA Team

Note: Numbers may not add up to 100% because of rounding

Table 38: Distribution of JUH Expenditures by Type of Expenditure, (percent)

	1996	1998
Recurrent Expenditure		
Salaries	58%	42%
Drugs	15%	20%
Supplies	14%	18%
Maintenance	4%	2%
Food & Cleaning	3%	2%
Treatment	4%	3%
Training	0%	0%
<i>Sub-total</i>	96%	89%
Capital Investment		
Medical Equipment	1%	2%
Non-medical Equipment	1%	1%
Constructions	0%	4%
<i>Sub-total</i>	2%	7%
Others		
Other	2%	4%
<i>Sub-total</i>	2%	4%
Grand Total	100%	100%

Source: NHA Team

Note: Numbers may not add up to 100% due to rounding

5.4 Public Firms

Potash Company, Jordan Refinery Oil and Petroleum Company, Phosphate Company, Cement Company, Royal Jordanian Airlines, and the Central Bank of Jordan are the biggest public firms in Jordan, in terms of revenue as well as number of people employed. In 1998, these public firms spent almost JD 16.7 million on providing health care to their employees and their dependents (Table 39). The care was provided either through in-house facilities or, as mentioned earlier, through contractual agreements with the JUH or RMS. Almost 20 percent of the total health expenditure public firms incurred, JD 3,284 million, was reimbursed to JUH for its services. Due to the lack of more information at this point, it is assumed that the remaining amount was spent on in-house facilities of these public firms. (For more details refer to Tables 4 and 5.)

As noted in Table 39, at JD 8.8 million, the Phosphate Company spends more on providing health care to its beneficiaries than the sum of total expenditures incurred by the other five public firms. It accounts for 53 percent of the total expenditures incurred by public firms. The Refinery Oil and Petroleum Company incurred 16 percent of the expenditures, followed by the Potash Company at 14 percent. The Cement Company spent 11 percent of the total amount, and the Central Bank of Jordan accounted for 5 percent. Royal Jordanian Airlines spends the least amount, accounting for only 1 percent of the total expense.

Based on the trend in the expenditures, we can infer that Potash Company, Refinery Oil and Petroleum Company, and Phosphate Company have some in-house primary care health facilities, at least to deal with routine health matters. More complicated cases are referred most often to the JUH. Some of the public firms, Cement Company, Royal Jordanian, and Central Bank of Jordan, appear to have a contractual agreement with JUH and RMS to provide all services to their employees and spend very limited funds on in-house facilities.

Potash Company spent 74 percent on recurrent expenses, of which almost 69 percent was on treatment. Almost 26 percent of the expenditure was for capital investment associated with the in-house clinics. Refinery Oil and Petroleum Co. spent 95 percent on recurrent costs and the remaining 5 percent on capital investment. Phosphate Company spent practically its entire budget on recurrent costs.

Table 39: Expenditure by Type for Public Firms, 1998 (JD 000s)

Six Largest Public Companies	Potash Co.	Refinery & Petroleum	Phosphate Co.	Cement Co.	Royal Jordanian	Jordan Central Bank	Total
Recurrent Expenditures							
Salaries	381	200	3,541	234	0	0	4,356
Drugs	150	984	1,605	526	0	355	3,620
Supplies	15	3	96	0	0	0	114
Maintenance	3	0	22	0	0	0	25
Food and Cleaning	3	0	0	0	0	0	3
Treatment	1,205	1,422	3,496	919	230	412	7,684
Training	0	0	0	0	0	0	0
<i>Sub-total</i>	<i>1,757</i>	<i>2,609</i>	<i>8,760</i>	<i>1,679</i>	<i>230</i>	<i>767</i>	<i>15,802</i>
Capital Investment							
Medical Equipment	426	78	0	68	0	0	572
Non-medical equipment	0	50	0	0	0	0	0
Construction	180	0	0	0	0	0	180
<i>Sub-total</i>	<i>606</i>	<i>128</i>	<i>0</i>	<i>68</i>	<i>0</i>	<i>0</i>	<i>802</i>
Other Expenses							
Other	3	1	91	0	0	0	95
<i>Sub-total</i>	<i>3</i>	<i>1</i>	<i>91</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>95</i>
Total	2,366	2,738	8,851	1,747	230	767	16,699
Percent	14%	16%	53%	11%	1%	5%	16,699

Source: NHA Team

Note: Numbers may not add up to 100% due to rounding

5.5 Non-governmental Organizations

NGOs provide mostly primary health care services. For this round of NHA, very limited data are available on NGOs. The paucity of data can be attributed to two reasons. First, there is no official system that tracks the role of NGOs in the health sector. Second, NGOs are reluctant to divulge data, particularly financial data. In our first attempt at determining the revenues and expenditures for NGOs, we found that they spend close to JD 13 million. This accounts for almost 3 percent of total expenditures on health care services.

Sources of Funds

In the absence of any detailed data, this study did an ad hoc allocation of NGO funding sources, splitting the total contribution equally between MOF and households. This will be modified upon receiving more data.

Table 40: Sources of Funds for NGOs in 1998 (JD 000s)

	MOF	Households	Total
Amount	6,449	6,449	12,898
Percent	50%	50%	100%

Source: NHA Team

Uses of Funds

NGOs spend the biggest portion of their budget on salaries, which account for 41 percent of the total expenses. As noted in Table 41, NGOs spend very little on capital investment. We suspect that a lot of the donor assistance is in kind (equipment or medical supplies). The remaining 16 percent is spent on miscellaneous items.

Table 41: Distribution of NGOs Expenditures by Type of Expenditure, 1998 (JD 000s)

	NGOs	Percent
Recurrent Expenditure		
Salaries	5,245	41%
Drugs	2,230	17%
Supplies	1,896	15%
Maintenance	824	6%
Food and Cleaning	395	3%
Treatment	95	1%
Training	134	1%
<i>Sub-total</i>	<i>10,819</i>	<i>84%</i>
Capital Investment		
Medical Equipment	-	0%
Non-medical equipment	5	<1%

Construction	2	<1%
<i>Sub-total</i>	7	<1%
Other Expenses		
Other	2,072	16%
<i>Sub-total</i>	2,072	16%
Total	12,898	100%

Source: NHA Team

Note: Numbers may not add up to 100% due to rounding

5.6 Donor Assistance

Table 42: Breakdown of Donor Assistance for 1998 (JD)

Name of Donor	Amount	Purpose of Assistance
WHO ¹	345,410	Training and supplies
World Bank ²	2,476,629	Construction: 1,791,410 Training: 555,535 Supplies: 129,684
UNICEF ³	297,000	Training: 200,000 Supplies: 97,000
Government of Japan ⁴	4,480,000	Medical supplies
Swiss Grant ⁵	700,000	Construction
USAID	10,118,000	Technical assistance
Other	8,582,961	N/A
Total	27,000,000	

Sources:

1. Joint Program Review Mission 1996,1997

2. Directorate of Planning and Project Manager – Accounting Division Project Implementation Unit (MOH)

3. UNICEF, 1998

4. Directorate of Planning and Project Manager (MOH), 1998

5. Directorate of Accounting (MOH), 1998

USAID/Jordan, 1998

There is no central agency in Jordan that tracks donor assistance. In the absence of such a tracking system, obtaining accurate data is difficult. For this round of NHA it has been assumed that total donor assistance in the health sector amounted to JD 27 million in 1998. It is assumed that MOH received approximately JD 25 million in assistance. Data from the JUH and RMS reveals that they each received World Bank loans of JD 1 million. The donor assistance values will be updated as more reliable data becomes available.

United Nations Relief Works Agency

The United Nations Relief Works Agency (UNRWA) provides care to over 400,000 Palestinian refugees, and accounts for JD 7.4 million, a little less than 2 percent, of the total health expenditure. Like other NGOs UNRWA is financed with outside sources. It runs its own system of health centers, and refers patients to MOH and private facilities for hospital care.

5.7 Insurance Sector

Approximately 1.5 million people, 32 percent of the Jordanian population, are without any form of health insurance coverage. Approximately 33 percent of the Jordanian population receives health insurance coverage through RMS, 21 percent through MOH, 18 percent through UNRWA, and 5 percent through the private sector (Banks, Milburn and Sabri, 1999). In the event of an illness, 53 percent of the uninsured seek treatment at private sector clinics, and 37 percent seek treatment at MOH facilities where services are highly subsidized. The private sector provides free medical consultation to thirteen percent of the uninsured.

Measurement Problems in the Estimation of Insurance Coverage

Differing estimates exist for the proportion of the uninsured Jordanians. The World Bank Health Sector Study estimates 20 percent of the population to be without health insurance, whereas the Jordan Living Conditions Survey and PHR studies estimate 32 percent. Two main reasons are cited for the discrepancy in the number of uninsured. First, different sources rely on different data for calculating the number of uninsured (Banks, Milburn and Sabri, 1999a). The JLCS relies on primary data collected through a comprehensive survey of households and individuals, whereas the World Bank relies on secondary data and anecdotal input from personal interviews with MOH and other officials. The second reason is that the way the question regarding insurance is posed by the field interviewer can create some ambiguity. It is also worth noting that the JLCS estimate is at a static point in time, capturing the health insurance status of the persons at the time of the interview.

Much like the different estimates of the number of uninsured individuals, there exist differing estimates for the proportion of individuals covered under each program (CIP, RMS, JUH, etc). Multiple coverage of individuals exacerbates the difficulty in ascertaining the proportion of individuals covered under each program. Multiple insurance and its impact on the use and cost of health care is an important policy concern. On one hand, multiple insurance may be a way for households to cover gaps in benefits and expand their choice of providers. On the other hand, multiple coverage may allow duplication of services, excess use, and lack of coordination, which can threaten the quality of care.

Approximately one-fifth of the population has multiple coverage (Hollander and Rauch, 1998a, Banks, Milburn and Sabri, 1999b). Estimates of the percentage of those with multiple insurance coverage were derived by relying on previous PHR studies⁸ that assessed and analyzed the insurance sector, as well as collection of data directly from the CIP, RMS, MOH, and JUH. The PHR studies estimated that 32 percent of the population (or 1,521,840) is uninsured, implying that the remaining 68 percent (or 3,233,910) of the population is insured. However, estimated number of insured is 3,873,200, suggesting that there is multiple coverage to the extent of 20 percent (3,873,200/3,233,910). This estimate will be further updated once the Jordan Household Expenditure and Utilization Survey data becomes available.

⁸ PHR Studies on Insurance are: 1) Assessment of Third Party Payers, 2) Profile of the Uninsured, and 3) Study of Private Firms offering Health Benefits to Employees.

Table 43: Break-down by Insurance Coverage

Population Groups	Total	Percent
Total Population	4,755,750	100%
Profile of the Insured Population		
Government Employees (CIP enrollees)	1,008,000	21%
RMS Beneficiaries	1,584,000	33%
JUH Beneficiaries	25,000	1%
Private Insurance	240,000	5%
Insured Refugees	864,000	18%
Employees in Self-insured Firms	152,200	3%
Subtotal Insured Population	3,873,200	81%
Uninsured Population	1,521,840	32%
Percent of Insured with Multiple Coverage	19.7%	

Note: Based upon PHR studies of the uninsured, third party insurance, private employers who offer health benefits to their employees and data collected from CIS, RMS, and JUH. This probably underestimates the extent of multiple coverage.

5.7.1 Civil Insurance Program

Organization

The CIP was established in 1965 under Law No. 104. Contributions toward the insurance program were obligatory for government employees and voluntary for the rest of the population. The insurance program was set up such that the members pay a fixed co-payment for all procedures and services received at an MOH hospital. In 1979, the coverage was expanded to cover certain treatments at the private facilities. In 1983, voluntary enrollment was discontinued.

The general opinion of the management at CIP is that its operation is bureaucratic and limited in scope. This possibly affects its effectiveness in providing quality health insurance to its members. The laws governing the CIP are inflexible and the management has little decision-making authority to affect any real change in the operations of CIP and streamlining it to increase its effectiveness. In November 1999, a draft for a new law to reform the health insurance sector was prepared and submitted to the cabinet. The new law would enhance the flexibility of coverage and redefine the threshold for poverty line. For example, under the proposed law, family members of organ donors will be eligible for extended coverage. Several methods have also been proposed to increase revenue including imposing a sin tax on cigarettes and polluting companies. Further, CIP would like to reintroduce the voluntary insurance program.

Revenue and Expenditure

The CIP operating budget, like all other public budgets in the health sector, is managed at the central level and is outside the control of its managers. This exogenous budgeting system affords very little control or independence in financial decision making or monitoring expenditures. The present set-up allows CIP to only reimburse patient claims on a fee-for-service basis, including treatment abroad. The reimbursement rates are predetermined at the MOH and JUH with little input from the CIP. The fee-for-service system, that is prevalent at the CIP, creates incentive for conducting multiple, sometimes unnecessary procedures, as well as overbilling by providers. In order to

overcome some of the shortcomings of the existing system, CIP has initiated steps to computerize its entire accounting system and network it with other governorates.

Table 44: Breakdown of CIP Revenues and Expenditures for 1998 and 1999 (JD 000s)

	1998	1999
Revenues		
Insurance Premiums	14.6	13.7
Co-payments	6.0	5.9
Drugs (250 files as copay)	4.0	4.2
Ministry of Social Affairs	0.5	0.9
Other	0.14	0.5
Total Revenues	25.2	25.2
Expenditures		
Treatment Abroad	1.4	1.2
Treatment in Private Sector	2.9	4.3
Drug Purchase from Private Sector	1.8	1.2
Drug Purchases & Medical Supplies from MOH	9.3	9.8
Treatment at JUH ¹	5.3	6.0
Student/Children Eye-glasses	0.16	0.1
Maintenance & Office Supplies		0.02
Physician Incentives	1.8	2.0
Transportation		0.08
Social Security Debt Repayment	1.0	0.50
Total Expenditures	23.66	25.3

Source: CIP Director General

Notes: The total amount owed to JUH is JD 11 million. JD 6 million is allocated in the CIP budget and paid to JUH as indicated in the expenditures column. However, the remaining amount of JD 5 million is not reflected in the CIP budget, and is directly transferred from Ministry of Finance to JUH.

Categories of People Covered by CIP

The categories of people who are eligible to receive treatment under CIP are as follows:

- > Group 1: Government employees and their dependents
- > Group 2: Certified poor – with a green card (income < JD 600)
- > Group 3: Handicapped persons (irrespective of income)
- > Group 4: Blood donors
- > Group 5: Poor not covered in any of the above four categories
- > Group 6: People covered under RMS insurance
- > Group 7: Those who are able to pay

Table 45: The Distribution of People Covered Under CIP

Category of People Covered	Percent
Government Employees	27
RMS	21
Able to Pay	46
Green Card	6
Total	100

Source: CIP Director General

Note: Numbers may not add up to 100% because of rounding

Under the CIP, some of the most expensive treatments are provided free of charge to patients who have certain conditions (see list below) irrespective of their ability to pay. We do not have an estimate of the amount of money expended on treating these conditions.

- > Cancer
- > Dialysis
- > Hormonal imbalances
- > Contagious/infectious diseases
- > Accidents/natural catastrophes
- > Mental health and psychotherapy
- > Alcoholism and drug addiction
- > Blood-related diseases (for example)
- > Hemophilia
- > AIDS
- > Anemia
- > Aplastic anemia
- > Sickle cell anemia

Recommendations

The CIP senior management made the following recommendations to improve the existing system:

- > Computerize the entire accounting and information system.

- > Build capacity by conducting training on health insurance and how it operates.
- > Introduce scan cards that can be linked to patient database.
- > Decentralize the budgetary system and delegate decision making as well as financial authority to the CIP management.
- > Limit the package of free services.

5.7.2 Private Insurance

Private insurance can be administered either by private insurance companies or by self-insured firms. Self-insured firms directly pay for health services for their employees and covered dependents, and assume all the financial risk inherent in providing such benefits. Both insurance companies and self-insured firms may use third party administrators (TPA) to administer their health plans. TPAs specialize in processing medical claims.

The private insurance market is very limited, partly because health insurance is not considered to be very profitable line of business as compared to other insurance markets (PHR, 1998a). There are 26 companies licensed to sell some type of insurance in Jordan; 20 are licensed to sell health insurance and, 18 are active in this line of business. Only one of these 18 offers full coverage, all other offer limited coverage only. The estimated number of people covered by privately purchased health insurance policies in Jordan has grown almost six-fold, from 24,000 in 1989, to 138,815 in 1997. The average premium for limited coverage is JD 82 (US\$ 116), and for full coverage (offered by only one company) it is JD 613 (US\$ 866). The premium revenue for health insurance in Jordan was almost JD 11.5 million (US\$ 16.2 million) in 1997, which accounted for 12 percent of the total (all types) of insurance premiums collected in the private market.

Several large companies, including financial service companies such as banks are self-insured. Five of the self-insured firms (Royal Jordanian Airlines, Jordan Petroleum, Jordan Phosphate, the Electric Company, and the Housing Bank) cover 92,500 people. In addition, some people get health benefits through medium-size firms as well as professional trade associations. For example, 5,000 doctors are covered under Jordan Medical Society (Hollander and Rauch, 1998).

There are three TPA firms in Jordan—Magnet, Mednet, and NatHealth. TPA firms provide medical claims processing services (including utilization review such as pre-hospital admittance review) to insurance companies or self-insured firms for a fee. Ten of the 15 insurance companies reported using a TPA. The most common arrangement is where TPA assist the client insurance company or a self-insured firm to ascertain the appropriate payment to the health care provider under the terms of the policy. The TPA do not bear any financial risk. PHR estimated that the three firms provide services to 74,300 people through health plans from insurance companies or self-insured companies.

Provider Relations, Contracting, and Management

Insurance companies and self-insured firms deal primarily with private sector physicians and hospitals and have used both contractual⁹ and indemnification¹⁰ approaches with providers. Contracts with providers primarily define the terms of payment, and do not provide any incentives to influence provider behavior. The insurance industry views the medical sector as neither in partnership nor in competition with them, but as the providers of the services for which they pay (Hollander, 1998a).

Regulatory Environment

The Ministry of Industry and Trade, through its Controller of Insurance, is responsible for the regulation of insurers. Insurance companies in Jordan operate under a general insurance law that lacks significant regulatory authority. There is little or no coordination between the MOH and the Ministry of Industry and Trade concerning the regulation of health insurance industry or of self-insured firms' health benefit plans. Pending legislation would increase the responsibilities and strengthen the regulatory authority of the Controller of Insurance.

Future Growth of Private Insurance Market

One of the major obstacles in the growth of the health insurance industry is the limited sales of group health insurance policies to large companies. Many large companies are already self-insured and believe that health insurance, in its present form, provides little added value, and that the policies offered are too limited, inflexible, and expensive. The private insurance companies have not pursued the self-insured companies because of being unable to be selective about the level of risk associated with insuring the employees of these companies.

5.8 Hospital Sector

As noted in Table 46, the total number of beds in Jordan in 1998 was 8,366 or 17.4 beds per 10,000 population, one of the highest ratios in the Middle East. The public sector has twice as many beds as the private sector. The occupancy rate varies from 45 to 70 percent across public and private sectors and across governorates. It is particularly low in the private sector. As the table also shows, the total number of admissions was 539,862. This means 11 percent of population has one inpatient admission per year. From Table 47, we can infer that two-thirds of the admissions occur in public sector and one-third in private sector. The average cost per admission is JD 460 (Table 48). The JUH costs more than twice the average, probably because it is a teaching hospital and attracts a more costly case mix. Cost per admission is estimated by summing the curative costs and proportionate administrative and training cost, and dividing this fully loaded curative cost by the total number of admissions for each of the public entities.

⁹ Where insurance companies contract with provider for particular services at specific rates.

¹⁰ Where the insurer pays the subscriber who is receiving health care a fixed amount per disease or per day of the illness and the subscriber is responsible for paying the health provider for any medical costs incurred.

Table 46: Hospitals: Utilization and Efficiency Indicators, 1998

Sector	Number of Beds	Admissions	Discharged		Death Rate	Average Length of Stay	Occupancy Rate	Outpatient Visits	Surgery	Deliveries
			Alive	Dead						
MOH	3,192	234,504	231,591	2,743	1.2	3.3	69.7	1,827,087	74,544	63,276
RMS	1,828	102,711	99,676	2,231	2.2	4.5	69.9	2,033,574	39,216	22,001
JUH	494	22,376	21,892	529	2.4	5	67.0	227,621	10,727	2,607
Private	2,852	180,271	178,538	1,426	0.8	2.6	45.0	313,656	75,263	39,030
Total	8,366	539,862	531,697	6,929	1.3	3.4	60.1	4,401,938	199,750	126,914

Source: MOH Annual Report, 1998

Table 47: Percentage Distribution of Beds and Admissions

Entity	Percent of Beds	Percent of Admissions
MOH	38%	43%
RMS	22%	19%
JUH	6%	4%
Private	34%	34%
Total	100%	100%

Table 48: Cost Per Admission

Entity	Cost Per Admission, JD
MOH	373
RMS	510
JUH	1,141
Total Public	460

Indiscriminate capital investment in the private hospital sector and minimal regulation have resulted in a surge in the number of private hospitals. An efficient occupancy rate is considered to be approximately 80 percent. In order for the private sector to achieve 80 percent occupancy, 39 percent of private beds would be considered excess (Irshaid, 1999). Possible reasons for low occupancy in private sector hospitals are that they are more expensive than public hospitals; and 80 percent of Jordanians are insured under a public program that does not cover services in private facilities.

5.9 Households

In 1998, households spent JD 197 million or 42 percent of total expenditure on health care. This includes out-of-pocket expenditure paid directly for health care services and drugs, as well as insurance premiums. In order to more accurately estimate the out-of-pocket household expenditure, PHR is in the process of conducting the Jordan Household Expenditure and Utilization Survey (JHEUS). For this round of NHA, the utilization rates and out-of-pocket expenditures incurred by households are based on the Jordan Living Conditions Survey conducted by the Jordan Department of

Statistics in collaboration with Fafo Institute for Applied Social Science (Norway). These estimates will be updated as soon as the JHEUS data becomes available.

5.9.1 Illness and Care

Females consistently are more likely to report an episode of illness than males. This probability does not change significantly with insurance status or their region of residence (rural or urban), age, marital status, level of education, or income (Table 49).

According to traditional wisdom, males who report an episode of illness are slightly more likely to seek medical care than females. This pattern holds up for all socio-economic and demographic categories. There are two possible reasons why males are more likely to seek care than females. First, because men are less likely to report illness, their initial symptoms go unchecked until the illness is exacerbated and medical care is mandated. Second, because of the various domestic responsibilities placed upon women and the gender dynamics of the culture, they may not be able to seek medical care easily. An exception to the pattern is females between 55 and 74 years and widowed females who have reported an episode of illness appear to have a higher probability of seeking medical care than males.

Based on patterns seen in most countries, it is expected that reporting an episode of illness as well as seeking care increases with level of education, income, and urbanization. Findings about males is consistent with this expectation. However, it is interesting to note that Jordanian women who have very little or no education as well as those in the lowest income category are far more likely to either report an episode of illness or seek medical care than their more educated and wealthier counterparts. This is an interesting finding from a policy perspective. Such a finding is indicative of the accessibility of health care for the poor as well as those in rural areas. As we see, both rural males and females have a higher likelihood of seeking care once they have reported an episode of illness than their urban counterparts.

Table 49: Population Reporting Illness and Seeking Care (recall period two weeks) (percent)

Category	Those Who Report an Illness			Percentage of Ill Seeking Care ²		
	Sample Total ¹	Males (percent)	Females (percent)	Males	Females	Total
Total sample	3329	47%	53%	66%	63%	65%
Insurance status						
Insured	1664	48%	52%	72%	72%	72%
Not insured	1664	47%	53%	61%	55%	58%
Urban-Rural						
Urban	2737	48%	52%	65%	62%	63%
Rural	592	45%	55%	75%	68%	71%
Region						
Amman	1363	49%	51%	64%	58%	61%
Zarqa and Mafraq	708	48%	52%	66%	64%	65%
Balqa and Madaba	242	48%	52%	70%	66%	68%
Irbid	630	43%	57%	67%	67%	67%

	Those Who Report an Illness			Percentage of Ill Seeking Care ²		
Category	Sample Total ¹	Males (percent)	Females (percent)	Males	Females	Total
Jarash and Ajloun	104	45%	55%	77%	79%	78%
South	282	48%	52%	75%	70%	72%
Age Groups						
5-14	1045	53%	47%	67%	61%	65%
15-24	657	44%	56%	59%	57%	58%
25-34	591	44%	56%	67%	63%	65%
35-44	389	46%	54%	66%	64%	65%
45-54	273	42%	58%	77%	70%	73%
55-64	212	50%	50%	65%	75%	70%
65-74	107	46%	54%	71%	79%	76%
75+	53	60%	40%	75%	71%	73%
Marital Status (15+)						
Single, never married	670	52%	48%	60%	53%	56%
Married	1453	45%	55%	69%	67%	68%
Widowed	137	12%	88%	59%	75%	73%
Divorced	17	24%	76%	100%	61%	71%
Separated	9	0%	100%	0%	89%	89%
Completed Education (all)						
None/ never attended	518	35%	65%	72%	76%	74%
Less than basic	1568	51%	49%	66%	61%	64%
Basic	536	47%	53%	60%	58%	59%
Secondary	366	45%	55%	72%	60%	65%
Post-secondary	337	52%	48%	69%	61%	65%
Completed Education (15+)						
None/ never attended	357	27%	73%	75%	78%	77%
Less than basic	687	49%	51%	64%	63%	63%
Basic	534	47%	53%	60%	58%	59%
Secondary	366	45%	55%	72%	60%	65%
Post-secondary	337	52%	48%	69%	61%	65%
Annual Household Income						
< 900	309	42%	58%	63%	70%	70%
901-1450	426	47%	53%	58%	52%	54%
1451-1800	618	49%	51%	65%	65%	65%
1801-2900	766	48%	52%	69%	70%	69%
2901-3600	456	46%	54%	65%	60%	62%
3601-4300	219	50%	50%	67%	58%	63%

Category	Those Who Report an Illness			Percentage of Ill Seeking Care ²		
	Sample Total ¹	Males (percent)	Females (percent)	Males	Females	Total
4301-5300	139	51%	49%	85%	66%	76%
5301-6600	129	47%	53%	67%	64%	65%
6601-9600	51	53%	47%	78%	50%	65%
> 9600	36	53%	47%	63%	47%	56%

Source: JLCS, 1996

Notes: 1. Number of people in the sample who report an illness

2. Percent of (reported) ill who seek care

5.9.2 Per Capita Use

As indicated in Table 50, the overall utilization per capita is 2.41 visits to a medical facility per year. Females have higher utilization rates (2.63) than males (2.31). The urban, elderly, less educated, lower income populations show higher number of per capita visits to health care facilities. Again, it is interesting to note that those without insurance actually have higher utilization rates than those with insurance coverage. While the findings with respect to those living in urban area and the elderly are consistent with conventional wisdom, the findings regarding higher use rates among those with no insurance, lower levels of education, and lower levels of income are counter-intuitive. These findings reinforce the observation made in the earlier section that equity in terms of access may not be a problem in Jordan.

The use rates for both males and females increase with age. An exception is women of child bearing age (15-45 years). Males in all other age categories have higher per capita use rate than females. The death of a spouse appears to influence the utilization rate. Use rates for widowed men is 6.61 and 4.43 for widowed women. The high use rate for widowed men and women could be attributed to the absence of a spouse at home to provide care.

As indicated in the table, per capita use rates decrease with an increase in education, as well as an increase in income. Females in all categories of education and most income brackets have higher utilization rates, the exception being the highest income bracket, where males have a slightly higher use rate than females.

Per capita use is defined as visits to a medical facility per year per person.

Table 50: Annual Per Capita Use of Health Care

Category	Per Capita Use Rates		
	Males	Females	Total
Total sample	2.31	2.63	2.41
Insurance Status			
Insured	2.27	2.52	2.40
Not insured	2.36	2.73	2.54
Urban-Rural			
Urban	2.48	2.77	2.63

	Per Capita Use Rates		
Category	Males	Females	Total
Rural	1.73	2.12	1.93
Region			
Amman	2.54	2.67	2.60
Zarqa and Mafrq	2.69	3.08	2.88
Balqa and Madaba	1.87	2.04	1.95
Irbid	2.19	2.96	2.57
Jarash and Ajloun	1.31	1.66	1.48
South	1.92	2.10	2.01
Age Groups			
5-14	2.87	2.69	2.78
15-24	1.91	2.56	2.23
25-34	2.83	3.35	3.10
35-44	3.47	3.90	3.69
45-54	2.96	4.26	3.60
55-64	3.60	3.55	3.57
65-74	3.63	4.33	3.98
75+	4.33	3.29	3.85
Marital Status (15+)			
Single, never married	1.94	2.33	2.11
Married	3.29	3.75	3.53
Widowed	6.61	4.43	4.62
Divorced	2.75	2.87	2.83
Separated	0	4.54	3.84
Completed Education (all)			
None/ never attended	1.13	1.65	1.42
Less than basic	2.90	3.01	2.96
Basic	2.26	2.89	2.55
Secondary	2.51	3.34	2.91
Post-secondary	2.66	3.23	2.90
Completed Education (15+)			
None/ never attended	3.29	3.35	3.33
Less than basic	3.07	3.60	3.32
Basic	2.26	2.87	2.55
Secondary	2.51	3.34	2.91
Post-secondary	2.66	3.23	2.90
Annual Household Income			
< 900	3.03	3.37	3.22

Category	Per Capita Use Rates		
	Males	Females	Total
901-1450	2.35	2.62	2.49
1451-1800	2.63	2.82	2.72
1801-2900	2.29	2.57	2.43
2901-3600	2.15	2.58	2.36
3601-4300	2.42	2.67	2.54
4301-5300	2.11	2.33	2.21
5301-6600	2.11	2.55	2.33
6601-9600	1.46	1.54	1.50
> 9600	2.75	2.57	2.67

Source: JLCS

5.9.3 Reasons for Not Visiting Health Care Service Provider

Per Table 51, the most common reason for not seeking medical care appears to be the prevalence of modern self-treatment as opposed to not being able to pay for care. Almost half (45 percent) cited this reason. The second most common reason is that the illness was not severe enough to warrant professional help. Very few indicated lack of facilities as a reason for not seeking health care. Both males and females classified and ranked the reasons in the same order.

Table 51: Reasons for Not Seeking Care

Category	Total Percent Mentions
Modern self-treatment	45%
Not ill enough	23%
Traditional self-treatment	11%
Cannot afford treatment	11%
Other reason	8%
Too busy	1%
No appropriate facility nearby	0%

Source: JLCS

5.9.4 Choice of Provider

As indicated in Table 52, almost 56 percent of the individuals in the sample chose to seek care at public facilities as opposed to 39 percent who went to the private sector. Unfortunately, the JLCS data did not identify what proportion of the hospital visits were inpatient and outpatient visits. Individuals, regardless of where they reside, prefer public facilities. The only exception is Amman where, because of the large number of private providers, 54 percent of residents in Amman choose private facilities. Age or marital status does not appear to have any bearing on the choice of provider. Individuals with at least secondary education and annual income over JD 4,300 prefer private facilities to public ones.

Counter to what would be expected, the uninsured prefer private providers to public providers even though they could receive free or highly subsidized services from MOH facilities. Most insurance coverage is offered by the public sector and therefore, compels the insured to seek treatment at public facilities to avail the health benefits. This finding elicits an equity issue, because care in the private sector is likely to impose a greater financial burden on the poor than the rich. UNRWA clinics and pharmacies are each responsible for treating 3 percent of the population.

Table 52: Choice of Provider

Category	Private hospital	Private clinic	Gov. hospital	Gov. health center	UNRWA clinic	Pharmacy	Total
Total sample	4.90%	34.10%	21.14%	34.62%	2.71%	2.52%	100%
Sex							
Male	5.51%	33.37%	24.02%	32.38%	2.07%	2.66%	100%
Female	4.34%	34.78%	18.45%	36.72%	3.32%	2.40%	100%
Insurance Status							
Insured	4.47%	22.77%	25.34%	45.02%	1.72%	0.69%	100%
Not insured	5.35%	48.13%	15.94%	21.82%	3.96%	4.81%	100%
Urban-Rural							
Urban	4.99%	38.36%	22.33%	27.91%	3.38%	3.03%	100%
Rural	4.57%	16.83%	16.35%	61.78%	0%	0.48%	100%
Region							
Amman	7.77%	46.62%	17.54%	21.43%	2.26%	4.39%	100%
Zarqa and Mafrq	2.26%	35.29%	27.60%	28.73%	4.30%	1.81%	100%
Balqa and Madaba	3.11%	33.54%	19.25%	37.89%	6.21%	0%	100%
Irbid	2.64%	19.90%	22.06%	51.56%	1.68%	2.16%	100%
Jarash and Ajloun	1.25%	12.50%	33.75%	48.75%	3.75%	0%	100%
South	6.93%	19.80%	16.34%	56.44%	0%	0.50%	100%
Age Groups							
5-14	2.71%	24.25%	16.57%	49.10%	4.37%	3.01%	100%
15-24	5.04%	38.46%	18.83%	34.48%	1.33%	1.86%	100%
25-34	6.09%	39.34%	24.10%	25.48%	1.11%	3.88%	100%
35-44	4.47%	43.50%	23.17%	25.61%	2.03%	1.22%	100%
45-54	2.11%	37.89%	28.42%	26.32%	3.16%	2.11%	100%
55-64	9.52%	34.69%	21.09%	26.53%	4.76%	3.40%	100%

Category	Private hospital	Private clinic	Gov. hospital	Gov. health center	UNRWA clinic	Pharmacy	Total
65-74	12.99%	36.36%	31.17%	18.18%	1.30%	0%	100%
75+	15.38%	25.64%	25.64%	33.33%	0%	0%	100%
Marital Status (15+)							
Single, never married	5.74%	35.79%	17.76%	37.16%	0.55%	3.01%	100%
Married	5.45%	40.94%	25.13%	23.98%	2.51%	1.99%	100%
Widowed	8.42%	27.37%	24.21%	35.79%	1.05%	3.16%	100%
Divorced	16.67%	50%	16.67%	16.67%	0%	0%	100%
Separated	25.00%	12.50%	37.50%	25.00%	0%	0%	100%
Completed Education (all)							
None/ never attended	4.81%	30.21%	25.67%	33.96%	3.48%	1.87%	100%
Less than basic	3.36%	29.56%	20.80%	40.98%	3.16%	2.14%	100%
Basic	3.25%	40.26%	17.53%	32.14%	1.30%	5.52%	100%
Secondary	8.37%	44.93%	19.38%	22.03%	3.08%	2.20%	100%
Post-secondary	11.00%	41.15%	22.01%	23.44%	0.96%	1.44%	100%
Completed Education (15+)							
None/ never attended	6.34%	30.97%	29.10%	29.85%	2.24%	1.49%	100%
Less than basic	3.76%	37.56%	26.29%	28.87%	2.11%	1.41%	100%
Basic	3.27%	40.52%	17.65%	32.35%	1.31%	4.90%	100%
Secondary	8.37%	44.93%	19.38%	22.03%	3.08%	2.20%	100%
Post-secondary	11.00%	41.15%	22.01%	23.44%	0.96%	1.44%	100%
Annual Household Income							
< 900	4.50%	26.00%	19.50%	41.00%	4.50%	4.50%	100%
901-1450	2.62%	37.99%	24.02%	27.07%	3.93%	4.37%	100%
1451-1800	1.02%	31.46%	21.74%	40.92%	2.81%	2.05%	100%
1801-2900	4.60%	26.44%	21.46%	41.00%	3.45%	3.07%	100%
2901-3600	7.22%	36.82%	27.80%	26.71%	0.72%	0.72%	100%
3601-4300	5.15%	32.35%	27.21%	33.09%	0.74%	1.47%	100%

Category	Private hospital	Private clinic	Gov. hospital	Gov. health center	UNRWA clinic	Pharmacy	Total
4301-5300	6.00%	56.00%	4.00%	34.00%	0%	0%	100%
5301-6600	6.85%	47.95%	17.81%	23.29%	0%	4.11%	100%
6601-9600	23.33%	23.33%	10%	43.33%	0%	0%	100%
> 9600	9.52%	76.19%	4.76%	9.52%	0%	0%	100%

Source: JLCS

5.9.5 Out-of-Pocket Health Care Expenditures

The vast majority of household expenditures on health (97.7 percent) are in the form of out-of-pocket expenditures. These are direct payments from households to private and public health providers and pharmacies. Total out-of-pocket expenditures were estimated to be JD 192,971,627. This estimate was calculated as follows:

1. The total number of visits for the entire population for 1998 was estimated to be 11,461,358 using the per capita utilization rate of 2.41 visits per year indicated by the JLCS data (population of 4,755,750 x 2.41 = 11,461,358 total visits).
2. The estimated number of total visits are then allocated to six expenditure categories in the same proportion as the JLCS sample (Table 53). Each expenditure category is expressed as a range of costs in JD as of 1994, the year that the JLCS data was collected.
3. A cost per visit was estimated for each expenditure category by taking the mid-point of each range (e.g., 4 for the range of 3 to 5) and adjusting it by a factor of 1.262477 to reflect four years (1994 to 1998) of an annual medical inflation rate of 6 percent ($1.06^4 = 1.262477$). While the average percentage change of the consumer price index for 1994 through 1998 was approximately 4 percent (IMF, 1998), an inflation rate of 6 percent is used to reflect “medical inflation,” which is higher than the consumer price index. For the highest expenditure category (\geq JD 20), JD 79.98 was used as the initial mid-point, after dropping 12 outliers where expenditures exceeded JD 1000. This mid-point was then adjusted for medical inflation ($79.98 \times 1.2622477 = 100.98$).
4. The number of visits is multiplied by the average cost in each expenditure category to produce the total expenditure for each category. Due to rounding of the cost per visit, the values for total expenditures may not appear to be exactly equal to number of visits multiplied by the cost per visit. The sum of total expenditures for each category is further inflated by 10 percent to produce the final total of JD 192,971,627. The additional 10 percent adjustment is necessary to compensate for the following deficiencies in the JLCS data:
 - > The inpatient costs are underestimated because JLCS uses only a two-week recall period and therefore, most likely underestimates the total cost of illness. Also, in case of visits associated with multiple illnesses, the survey includes only those associated with the most recent illness and ignores the earlier visits.
 - > Children under the age of five are not included in the survey. Children, particularly in their first year, tend to have high utilization rates. By excluding children, the total cost is likely to be underestimated.
 - > Routine (non-prescription) health expenditure is also not captured in the JLCS.

Table 53: Total Out-of-Pocket Expenditures

Expenditure Category (JD)¹	Number of Visits	Adjusted Cost per Visit (JD)²	Total Expenditures³
Free	4,636,856	0	0
1-2	1,397,002	1.89	2,645,523
3-5	1,218,661	5.05	6,154,125
6-10	1,379,168	10.10	13,929,338
11-19	1,622,900	18.94	30,733,102
>=20	1,206,772	100.98	121,858,354
Total	11,461,358		175,320,442
Total Expenditure with 10% increase⁴			192,852,487

Sources:

1. Based on JLCS data of 1994

2. Adjusted for annual medical inflation rate of 6% per year 1994-1998.

3. Total expenditures may not appear to be exactly equal to number of visits x cost per visit due to rounding of cost per visit.

4. Adjusted 10% for deficiencies in the JLCS data

6. Policy Implications of NHA

NHA helps health and social planners identify health policy issues, develop policy interventions, and monitor the impact of interventions. There are various ways that policymakers use NHA to identify issues and policy options, including:

- > General comparisons of NHA findings with other countries, for example, comparing Jordan's total health expenditures as a percentage of GDP, at 9.12 percent, with neighboring countries in the MENA region reveals that Jordan spends more than any other country except Lebanon.¹¹ This raises issues of sustainability (can Jordan continue to afford to spend this much on health?) and efficiency (what is the opportunity cost of spending so much on health? Would Jordan be better off if it spent more on education or infrastructure instead?)
- > Analyzing trends in the NHA findings. For example, the 24 percent growth in public expenditures on health between 1996 and 1998 may signal a need to reassess spending; and the growth of the private insurance market may reflect gaps in public insurance.
- > Analyzing the sources of funds can challenge conventional wisdom. For example, households pay 43 percent of total health expenditures in Jordan and are the largest source of financing despite a large public health infrastructure that spans three different ministries.
- > Analyzing the use of funds can reveal inefficiencies like under-spending on primary health care and prevention programs that could curtail spending on curative care.
- > Analyzing patterns of household demand for health services can challenge conventional wisdom. For example, Jordanians without health insurance prefer private providers to public providers even though they could receive free or highly subsidized services at public facilities.

The Jordan NHA team analyzed the NHA findings and identified numerous policy issues, as discussed below.

6.1 Sustainability

According to the JNHA estimate, Jordan spends nearly 9.12 percent of its GDP on health. Demographic trends indicate that the population is expected to double in a little over 15 years and the elderly as a percentage of the population is growing. In addition, as the population ages, chronic health conditions are expected to increase. Unless the economy more than doubles in the same period,

¹¹ One should use extreme caution when making international comparisons of health care expenditures. There is no uniform standard for collecting this type of data, and different countries include different quantities in their measurements, as well as different cost and expenditure proxies. Also, factors such as demographic differences, and the pattern of diseases are normally not controlled for in making such comparisons. Hence, a more accurate comparison of international expenditures on health-related services would be one that takes into account variations in technology, demographics, and the pattern of diseases among different countries.

health care expenditures as a percentage of GDP can be expected to increase or the health system to deteriorate. This will affect the ability to provide health care services at current level of quality and quantity.

6.2 Efficiency

Efficiency, as applied to health systems, can be allocative, economic, or technical. Technical efficiency is maximizing the output of effective services (e.g., number of visits, number of vaccines) for a given level of inputs (labor, supplies). Economic efficiency is producing services for the least cost. Allocative efficiency is allocating resources to activities that have the highest value. Another way of thinking of allocative efficiency is optimizing the mix of health services to obtain the most health value for the most people for the cost incurred (Leighton, Knowles, and Stinson, 1997). The Jordan NHA findings point to several efficiency issues.

Spending too much on health?

First, as discussed earlier, Jordan's relatively high spending on health (9.12 percent of GDP) raises the question of allocative efficiency for the whole health sector compared to other sectors in the economy like education or infrastructure. The result helps policymakers to think in terms of return value for investment in the health sector and the opportunity cost of that investment. It allows them to consider possible reallocation of resources to other economic sectors to maximize return.

Spending too much on curative care?

Second, Jordan spends much more on curative care (58 percent of total health expenditures) than on primary or preventive health care (27 percent). Most proponents of health sector reform believe that it is more efficient to allocate a substantial share of public sector resources to primary and preventive health in order to improve overall health status (e.g., child mortality rates, maternal mortality rates, and fertility rates) and possibly curtail spending on curative care. Policymakers need to expand existing or identify new prevention programs, for example, launch a smoking prevention program. According to JLCS, 24 percent of the surveyed population of age 15 and over are daily smokers, and 3-4 percent are social smokers. Almost 44 percent of all men and 5 percent of all women smoke. Nearly 67 percent of all households in which children below the age of 15 live are exposed to secondhand smoke, causing a considerable passive smoking problem. Other areas in need of attention include road accidents, obesity, immunization, and family planning.

Spending too much on private hospitals?

Indiscriminate capital investment in the private hospital sector and little regulation has resulted in a surge of number of private hospitals. The private sector has low occupancy rates (less than 50 percent) and a surplus of beds. Occupancy is low in private sector hospitals because they are more expensive than public hospitals, and most Jordanians are insured under a public program and are unable to use private facilities. Underutilized hospitals are very inefficient since a large portion of hospital costs are fixed, and the cost per patient is much higher.

Spending too much on pharmaceuticals?

The high level of spending on pharmaceuticals (35 percent of total health expenditures) may indicate excessive use of medications, patients self-prescribing drugs that are not appropriate, and high prices for brand name drugs. Given the scale of spending, there may be good opportunities to

improve efficiency in this area by training physicians, using generic drugs, and regulating the retail pharmacy market to prevent self-prescribing of drugs.

Are public health providers efficient?

Currently, there is insufficient data to really evaluate the technical and economic efficiency of the public sector. None of the public sector providers has a cost accounting system, and there has been no detailed analysis of service costs. Policymakers and facility managers recognize the usefulness of such cost data, not only to measure efficiency but also for planning purposes (e.g., costing out alternative ways to expand public insurance).

6.3 Cost Containment

Given the sustainability and efficiency issues described above, health planners could pursue cost containment as a strategy to sustain Jordan's health system. However, cost containment measures would encounter several challenges, including centralized budgeting and archaic accounting systems that extend very little authority and control to managers of public facilities to monitor expenditure. Also, most providers are reimbursed on a fee-per-service basis, which acts as an incentive to provide more services, with little attention paid to costs. Finally, taking away any existing health benefits is very difficult politically. For example, many of the most expensive health services (treatment for cancer, kidney disease, hormonal conditions, contagious diseases, accidents due to natural catastrophes, mental illness, alcohol and drug addiction, and different types of anemia) are provided free to everyone irrespective of income.

6.4 Equity

Equity in the health sector typically refers to narrowing differences in health status or access to services among different socio-economic, ethnic, geographic, or gender groups. Where income inequities are the main focus, public funding of health should be "pro-poor" and seek to redistribute income from the rich to the poor (PHR, 1997). In this light, the Jordan NHA points to at least three potential equity issues.

First, approximately one-third (32 percent) of the population in Jordan is uninsured, while an estimated 19 percent have multiple coverage. Given that the public sector is the primary source of health insurance (covering 55 percent of the population) and insurance improves access to services, public funding currently contributes to inequity in access. The government has considered expanding existing insurance programs to cover some or all of the uninsured. In November 1999, a draft for a new law to reform the health insurance sector was prepared and submitted to the cabinet that would enhance the flexibility of coverage and redefine the threshold for poverty-line. Several methods have also been proposed to increase revenue that include imposing a "sin" tax on cigarettes and polluting companies. In addition, CIP would like to reintroduce the voluntary insurance program. The government may also look for ways to limit multiple coverage to prevent individuals from claiming reimbursements from different insurers for the same services.

Second, the majority of uninsured people (54 percent) uses private facilities instead of going to MOH facilities (38 percent) where they could get free or highly subsidized services. This means that the poorer segments of the uninsured population bear a greater and possibly unfair financial burden compared to the insured or the wealthy uninsured. Some people would respond that the uninsured are simply exercising free choice of provider and are choosing to pay out-of-pocket for health services.

Another possibility is that this points to a real or perceived problem of quality of care at MOH facilities.

Third, the government pays for numerous expensive medical treatments regardless of a person's income, so probably public funds are subsidizing some wealthy households. CIP senior management has recommended limiting the package of free services, but this reform would face political challenges.

6.5 Quality of Care

NHA is clearly focused on financial as opposed to clinical data. However, some of the NHA findings do point to some quality of care issues in Jordan. As mentioned before, the majority of uninsured (53.5 percent) use private facilities instead of going to MOH facilities (37.8 percent), even though they can get free or highly subsidized services at MOH facilities. There is some anecdotal evidence that even people with CIP insurance coverage seek services from private providers. A possible explanation is that there is a real or perceived problem of quality of care at MOH facilities. Excessive use of pharmaceuticals is also a quality of care issue since patients may be consuming inappropriate or unnecessary drugs. Also, over-capacity in the private sector can create quality problems if private providers have an incentive to request unnecessary tests or hospital admissions in order to cover their costs.

7. Process and Lessons Learned

The four major obstacles experienced in compiling the NHA are listed below:

- 1) *Availability of Data:* Public entities are centrally managed and operate on a receipt-based system to cover their expenditures, and little attention is paid to monitor and control them. The MOH and JUH team experienced a great deal of difficulty in collecting data on expenditures and revenues. RMS, on the other hand, has an information system in place and gathered data with relative ease. In all the three public entities to varying degrees, categorization of expenditures by line item is very challenging. Financial management and accounting systems do not exist that can collect information on costs and distribution of expenditures by function, or establish links between costs and utilization. Data on expenditures at governorate level is not available at all. Very little information is available on household or private sector expenditures.
- 2) *Quality, Validity, and Reliability of Data:* Absence of an effective information system at the JUH, and particularly at the MOH, has resulted in producing data of suspect value. Conscious of the fact that quality and validity of data are questionable, extra effort was spent in ensuring that data for the NHA report are the best available data. Such data iterations have been labor and time intensive and can be avoided in the future if a data collection and management system is instituted.
- 3) *Non-conventional Accounting Methods:* Significant transfers take place outside the budgetary process, making it difficult to capture these expenses (examples include transfers from the MOF to cover the CIP deficit and transfers from general revenues to cover special costs). Book transfers between the RMS and MOH do not reflect the true cost of providing services at either institution. The MOH estimates that 25 percent of its inpatient admissions are accounted for by RMS beneficiaries and they receive only JD 4 million in notional book transfers against a cost of nearly JD 20 million.
- 4) *Standard Accounting Definitions:* A lack of standard definitions and codes of budgetary items, and functions and services throughout the health sector has caused difficulty in compiling the NHA report. The RMS and MOH definitions and codes are consistent, however, those used by JUH are unique.
- 5) *Level of Awareness and Support for NHA:* The level of awareness and support for the NHA activity has varied through out the three public entities. Even though NHA team members from each of the institutions are fully committed and understand the value of NHA, the support at other levels of government is ambivalent.
- 6) *Health Expenditure Information Not Used for Forecasting or Planning Purposes.*

8. Recommendations by NHA Team for Institutionalization

To date the following has been achieved:

- > NHA team constituted and trained in methodology;
- > Team has worked together to collect, analyze data, and produce draft report;
- > A number of lessons have been learned during this process;
- > Conducted a national dissemination MENA regional workshop to discuss results.

The Jordan NHA team has recommended a four-step approach to institutionalize NHA:

Step 1: Continue to sensitize senior policymakers both within and outside the MOH to NHA results and its relevance to planning and policy formulation. Organize internal dissemination and discussion meetings at the MOH, RMS, and JUH to secure support for results and findings. Next, under the auspices of the Prime Minister or the Minister of Health, organize a national dissemination workshop for senior representatives from the MOF, Ministry of Planning (MOP), Higher Health Council, and key representatives from the private sector.

Step 2: Enhance the NHA activity to a national level. Through an appropriate decree (possibly issued by the Prime Minister) establish a National Steering Committee. The decision to issue a decree should be the outcome from the dissemination workshop. The committee should consist of representatives from the MOH, CIP, MOP, MOF, RMS, JUH, and the private sector. It will have a technical arm made up of the existing team and some new members (MOF, MOP, and private sector). The committee will be responsible for the annual production of NHA reports, and their dissemination, and use in the policy process.

Step 3: Provide continued support to capacity building and development of standardized financial management and accounting systems in the public sector.

Step 4: Use experience gained over the next three years to decide on final arrangement for sustaining NHA activity.

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